

JOURNAL
OF THE
ANTHROPOLOGICAL SOCIETY OF LONDON.

NOVEMBER 3RD, 1863.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

The minutes of the previous meeting were read and confirmed.

The following *Fellows* were announced as having been elected since the last ordinary meeting of the Society. James Reddie, Esq.; Dr. A. Joannides, L.R.C.P.; Henry William Wickes, Esq.; John Bailey, Esq., B.A.; Dr. Buchanan Washbourne; G. R. Croxford, Esq.; Edward Clodd, Esq.; Walter Flight, Esq.; A. Ramsay, Esq., jun.; Dr. C. D. Hammond; John de Horne, Esq.; James Rock, Esq., jun.; George E. Roberts, Esq.; Henry Matthews, Esq.; John Mason Hepworth, Esq.; J. King Watts, Esq., F.R.G.S.; Captain Fleming; Joseph James Forrester, Esq.; J. R. Gregory, Esq.; George S. L. Hunt, Esq.; E. Sturman, Esq.; Eric Williams, Esq.; Sidney Faithhorn Green, Esq.; Montgomery Campbell, Esq.; Dr. Mackenzie Skues.

The names of the following *Corresponding Members* were announced. M. d'Omalius d'Halloy; Prof. Buschmann; Prof. Kaup; Prof. C. G. Carus; Dr. Karl Scherzer; Prof. Rüttimeyer; Dr. C. W. F. Uhde; Prof. Raimondy; The Marquis de Vibraye; Hermann de Schlagintweit; Prof. Daniel Wilson; Count Marschall; Prof. Hyrtl; Prof. Hochstetter.

The name of the following *Local Secretary in England* was announced. R. T. Gore, Esq., F.R.C.S.

The names of the following *Local Secretaries abroad* were announced. J. G. C. Ross, Esq.; Capt. W. Parker Snow; William Lockhart, Esq.; W. E. Stanbridge, Esq.; Paul B. du Chaillu, Esq.; Capt. A. H. Russell; A. G. Cross, Esq.; J. S. Wilson, Esq.

The Secretary read a list of presents, for which the thanks of the Society were voted to J. Jones, Esq.; Prof. Busk; Dr. W. Bell; M. Boucher de Perthes; the Anthropological Society of Paris; M. Paul Broca; M. Pruner-Bey; George Tate, Esq., F.G.S.; Prof. R. Owen, F.R.S.; M. Camille Dareste; Prof. Nicolucci; M. d'Omalius d'Halloy; Prof. J. D. Dana; the Smithsonian Institution of New York; A. Stair, Esq.; David Carrington, Esq.; Prof. Eckhard.

Mr. C. CARTER BLAKE presented the following Report on the AN-
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thropological Papers read at the Newcastle Meeting of the British Association for the Advancement of Science, in August and September, 1863.

In pursuance of a resolution which was arrived at by the Council in August last, your reporter proceeded to Newcastle, and now reports the chief results of his labours.

The delegates from the Anthropological Society, consisting of Dr. James Hunt, F.S.A.; Mr. J. King Watts, F.R.G.S., and your reporter, have, in the first place, to express their thanks to the local authorities for the hospitable manner in which they were received on various occasions, and for the many facilities which were placed at their disposal. The following is a list of the Committee of Section E, to which the delegates of the Anthropological Society were attached, and in which the majority of the Anthropological papers were read.

SECTION E.—GEOGRAPHY AND ETHNOLOGY. *President*: Sir Roderick I. Murchison, K.C.B., G.C.St.S., D.C.L., F.R.S., President of the Royal Geographical Society, Director-General of the Geological Survey. *Vice-Presidents*: J. C. Bruce, LL.D., F.S.A.; J. Crawford, F.R.S.; Francis Galton, M.A., F.R.S.; Sir John Richardson, M.D., F.R.S.; General Sabine, Pres. R.S. *Secretaries*: Clements R. Markham, F.S.A. F.R.G.S.; R. S. Watson; C. Carter Blake, F.G.S., F.A.S.L.; Hume Greenfield, Asst. Sec. R.G.S. *Committee*: Colonel Sir James E. Alexander, K.C.L.S.; Prof. Ansted, F.R.S.; Colonel Baker, R.E.; C. H. Bracebridge, F.R.G.S.; Rear-Admiral Sir Edward Belcher, C.B., F.R.G.S.; John Clayton; George Collinson, C.E.; Ralph Carr; R. R. Dees; Robert Dunn, F.R.C.S.; Dr. H. Falconer, F.R.S.; Captain Goodenough, R.N.; Captain Grant, R.I.A.; Rev. W. Greenwell; John Hogg, F.L.S., F.R.G.S.; Dr. James Hunt, F.S.A., F.A.S.L.; Rev. Edward Hincks, D.D.; J. Beete Jukes, F.R.S.; Colonel Lefroy, R.A. F.R.S.; Commodore Maury, C.S.N.; James McClelland, F.A.S.L.; P. O'Callaghan; Captain Bedford Pim, R.N., F.R.G.S., Assoc. C.E.; Sir Harry Parkes, C.B., F.R.G.S.; Captain Ratcliffe, F.L.S., F.R.G.S., F.A.S.L.; George E. Roberts, F.A.S.L.; Samuel F. Solly, F.R.S.; Mutu Coomara Swamy, of Ceylon; Dr. Julius Schwarcz, F.G.S., F.A.S.L.; Prof. Piazzzi Smyth, F.R.S.; G. Edward Salmon, C.E.; William Spottiswoode, F.R.S.; Colonel Sykes, M.P., F.R.S.; Sir Walter C. Trevelyan, Bart.; Rev. H. B. Tristram, M.A.; Alfred Wallace, F.R.G.S.; Prof. Daniel Wilson; J. King Watts, F.R.G.S., F.A.S.L.; William Wheelwright, F.R.G.S.

A negotiation had taken place with the General Secretary of the British Association, having for its object the establishment of a distinct subsection in section E, in which anthropological, including ethnological, papers should be read. This negotiation not appearing likely to produce any scientific result, it was decided that the anthropological papers should be read in section E, and be associated with the geographical and ethnological papers therein discussed. He has now to report on the papers which were read in section E. Forty-one papers were so read; eighteen treating on geographical subjects, to which no further reference need be made in this report; fourteen

on anthropological subjects, and nine on ethnological subjects. A list of these follows.

Anthropological papers read :—

A. Brought up by the delegates of the Anthropological Society.

1. Hunt. On Anthropological Classification.
2. Hunt. Physical and Mental Characters of the Negro.
3. Blake. Craniology of South America.
4. Charnock. Celtic Languages.
5. Lee. Extinction of Races.
6. Roberts and Busk. On the opening of a Cist.
7. Schlagintweit. Ethnological Casts (taken as read).
8. Jacobs. Vancouver's Island (taken as read).

B. From independent sources.

1. Lovaine. Lacustrine habitations.
2. Duckworth. Cranium from Amiens.
3. Turner. Cranium from Amiens.
4. Petrie. Antiquities of Orkneys.
5. Hall. Social Life of Celts.
6. Wilson. Runic Description.

Ethnological papers read :—

A. Brought up by delegates of Ethnological Society.

1. Crawford. Commixture of Races of Man in New World.
2. Do. Eastern Asia (previously read in London).
3. Do. Antiquity of Man (previously read in London).
4. Do. Celtic Languages (previously read in London).
5. Do. Origin of Gypsies (previously read in London).
6. Swinhoe. Ethnology of Formosa (previously read in London).

B. From independent sources (so far as known).

1. Mutu Coomara Swamy. Ceylon.
2. Wallace. On Malay Archipelago.
3. Fleming. Ethnology of Manchuria.

Summary of above results :—

Anthropological papers sent by Anthropological Society,		
and read	-	8
Anthropological papers from independent sources	-	6
Total Anthropological papers read	-	14
Ethnological papers sent by Ethnological Society, and		
read	-	6
[of which four previously, and one original paper.]		
Ethnological papers from independent sources (so far as		
known	-	3
Total Ethnological papers read	-	9

The above figures are perhaps sufficient to show the care which your delegates attempted to exercise in order that the Anthropological Society of London should be efficiently represented at Newcastle; and your reporter is most strongly impressed with the conviction, that the simple fact that the sister ethnological society, after twenty years

of more or less active existence, could only produce one original paper to be read at the great scientific congress of England, while the Anthropological Society sent eight such original papers, is an omen indicative of the rapid increase in strength and scientific position of the younger and larger society.

Your reporter, whilst he calls attention to these facts, at the same time must express his regret at the state of thought in which the public mind was observed to be at the British Association; it was not such as to encourage anthropologists to believe that their science will become a popular one amongst the middle-classes of England for many years. It will be, however, the duty of any representative whom the Anthropological Society may select to forward their interests at future meetings of the British Association, to lose no opportunity of impressing sound elementary facts, with a view to remove those misconceptions respecting the true objects of anthropology, which proceed from unscientific prepossessions.

The task of giving a detailed analysis of each paper read is one which your reporter will not here attempt. The fact that the *Anthropological Review*, which although entirely independent of the society, is in the hands of every member, has devoted a large space in its columns this quarter to a report of the meeting, will be to a certain extent an excuse for this omission. Your reporter will, however, briefly allude to a few of the more important papers.

Dr. James Hunt, our President, contributed a highly valuable paper on "Anthropological Classification", in which the whole range of the subject was considered and discussed in the most complete manner. This paper will be laid before the society during the present session, and it is to be hoped ultimately inserted in its memoirs, for which its great length will render it peculiarly appropriate. Your President also delivered a paper on "The Physical and Mental Characters of the Negro", on which a long discussion arose, during which, although much feeling was displayed, no scientific fact was elicited. The author will read a paper on a similar subject before the Anthropological Society on the 17th November.

Mr. R. S. Charnock, our Treasurer, sent an exceedingly learned paper respecting the "Celtic Languages", in which the opinions of Mr. J. Crawford were severely criticised. The absence of Mr. Charnock from the Association was an event much to be deplored for philological science, he being at the time absent in the Pyrenees; I understand that he will lay the results of his investigation on the dialects spoken in Andorra before the society at no distant day.

Mr. Lee's paper on the "Extinction of Races" was read, and will also be laid before our society at an early day.

Mr. George E. Roberts and Prof. Busk described a skeleton from Bennet Hill, on the Moray Firth. Their paper will be read at a later hour this evening.

Papers were sent by Hermann de Schlagintweit and by Captain Jacob, which were taken as read.

Lord Lovaine, Messrs. Duckworth and Turner, the Rev. R. Hall, Mr. Petrie and Prof. Wilson, contributed valuable papers to the sec-

tion. Mr. Hall's paper especially called forth a most lucid exposition relative to Celtic antiquities from our local secretary at Alnwick, Mr. George Tate, F.G.S.

Amongst the ethnological papers the most valuable one, without exception, was that contributed by Mr. Wallace on the "Ethnology of the Malay Archipelago", in which the questions relating to the antiquity of man were discussed in the most philosophical aspect.

The discussions which took place in section E, and in which Sir Charles Lyell, Prof. Jukes, Dr. Falconer, Mr. Godwin-Austen and Prof. Wilson took part, were often of the most interesting nature. Your reporter cannot conclude this allusion to section E without offering the thanks which anthropologists undoubtedly owe to Sir Roderick Murchison, the president, who, by his suavity in the chair, and efficient control over the feelings of the audience, as well as by the undeviating desire which he so constantly manifested to be strictly impartial, especially merits an expression of the obligation of your delegates.

The pressure of your reporter's duties in section E precluded him from attending the other sections so much as might have been advisable. In section C most interesting discussions arose respecting the "Antiquity of Man", on papers read by Prof. Phillips and Mr. Godwin-Austen respectively, and on which Sir Charles Lyell and Dr. Falconer offered most valuable observations. In section D, Messrs. Wallace and Tristram read a paper on "Geographical Distribution", which contained general conclusions which at no distant date may be successfully applied to anthropology. An exceedingly valuable paper was contributed by Dr. William Turner, on "Cranial Deformities, more especially the Scaphocephalic Skull", in which the author reviewed the labours of Virchow, Welcker, and Von Baer, while original critical observations were offered. A valuable and important paper was read in subsection D, by Dr. Embleton, on the "Anatomy of a Young Chimpanzee". Many other papers were read, which are not alluded to here, although in many cases they were of the highest general interest.

Upon the whole, it may be considered that anthropology has gained considerably in the estimation of scientific men by the proceedings of the last meeting of the British Association. Your reporter, however, out of a desire not to wound the feelings of his fellow Englishmen, refrains from drawing any unfavourable or invidious comparison between the scientific tone which prevailed at the meeting, and that which prevails at similar *réunions* in France and Germany. He hopes that steps will be taken, by the inculcation of facts necessary to be known, to remove this stain on the scientific reputation of the English nation, whose position in other branches of human knowledge should induce us no longer to be content to allow anthropology to occupy so ignominious a position in the thoughts of educated men. The proposal which stands on the minute-book of the general committee, in the name of Dr. James Hunt, that section E in future shall recognise the existence of anthropological science, is a proposition which in any other country but England would be considered one self-evident, and

of which the ordinary grammatical meaning of words would preclude the possibility of the denial of such an apparent necessary improvement. Opposition will, however, no doubt be offered, coming from a scientific party as ignorant of the meaning of the word "anthropology" as they are blind to the important signification of the science, which the word, empty in itself, represents. But if the Fellows of the Anthropological Society and their friends unite strongly to attain this, the first step in the formal recognition of their science in the annual scientific congress of England, and attend at Bath next year in such numbers on the general committee as to impress on the minds of the authorities the desirability of any necessary change, your reporter has no doubt their efforts will be ultimately crowned with success.

Your reporter regrets that many important topics are omitted in this brief report, in which he has been actuated by a desire to give the broad results of his observation at Newcastle in such a form as to indicate the objects for which we must all strive, and not to disguise the amount or nature of the labour which English anthropologists must undergo before their science can be usefully or practically advanced.

C. CARTER BLAKE.

The thanks of the society were given for this report.

Dr. HUNT said he thought there was cause for anthropologists to feel satisfied at the advance that had been made in the scientific tone of section E. It could not be denied that the delegates of the society had a very difficult duty to perform, and were obliged to listen to many most frivolous objections against the recognition of anthropology by name, although in practice the section was obliged to do so. He was glad to know that the chief opposition which they had received did not come, as many might suppose, from Fellows of the Ethnological Society, but rather from persons who had not the least knowledge of ethnology, and were quite incompetent to judge what was required for the progress of a true science of Man.

Professor JOHN MARSHALL, F.R.S., then read a paper on the "Superficial Convolutions of a microcephalic Brain".

[The publication of this paper is postponed.]

Note upon the Opening of a Kist of the Stone-age upon the Coast of Elgin. By GEORGE E. ROBERTS, F.A.S.L.; with a Description of the Skeleton, by Professor BUSK, F.R.S., etc.

SINCE this subject was brought before the notice of the British Association at Newcastle, I have received, through the kindness of my Scotch friends, some notes relating to a prior investigation of the kist, which it will be necessary to mention before proceeding to relate my own observation of it. For it appears most desirable that the fullest record of its discovery and the examination of its contents should be preserved. The Rev. Alexander Leslie writes to me as follows from the Manse of Burghead, in which parish Bennet hill, where the kists are, is situated:—

"In the month of July last year (1862) I went with my schoolmaster to the Bennet Hill (likely so called from St. Bennet of Pluscar-

dine), to examine the stone kists there, three in number; one, however, had been destroyed by the railway cutting. The remaining two were quite contiguous to each other, and on the same mound. In the one we found nothing but the remains of some bones, but in the other nearly the whole human skeleton. These we removed from the kist, and examined them, then replaced them all (but without any attempt as to their proper or natural position), except the lower jaw, which I took home with me, and which I have now sent to the Rev. Dr. Gordon, of Birnie, for transmission to you. Both kists gave evident tokens of having been previously opened. It is rather strange that there should as yet have been discovered just three kists and three middens, and all these so contiguous to each other as to be only a few yards apart."

The coadjutor of Mr. Leslie in this exploration, Mr. Alexander Jeffrey, of Burghead, thus writes to me respecting his share in the enterprise, and the present (October 24th) condition of the kists:—

"The stone kists now in existence are two in number, and are situated at the extreme eastern end of the hill. They were accidentally discovered some eight or nine years ago. The stones forming the side of the larger kist are respectively 3 feet 10 inches and 3 feet 5 inches in length. This is the kist from which the human skeleton was recently taken. I am not aware that any bones were found in the neighbouring grave. A third kist was come upon by the workmen employed in the railway cutting about twelvemonths ago. It was about the same size as the other two, and was quite empty. The *kjökkenmöddings* are also two in number, the largest measuring upwards of 50 feet in circumference. Another lies upon the opposite side of the railway cutting. As far as can now be ascertained, no pristine weapons of bronze or iron were ever picked up at Bennet Hill, although flint arrow-heads of beautiful workmanship were found in abundance. Unfortunately, all efforts made towards the re-discovery of these have hitherto failed."

I have also received several communications bearing upon the kist and the middens from the Rev. Dr. Gordon, who remarks that, although there are only three large *kjökkenmöddings* on the Bennet Hill, there are several smaller ones, a fact which my own observation also proved.

Mr. Leslie transmitted the lower jaw, as stated in this letter, to Dr. Gordon for me, accompanying it with a note, in which he says:

"It is wonderfully complete, with the exception of two or three of the teeth; but their loss is little to be wondered at, considering the voracious appetite of their owner, as proved by the enormous accumulation of a mussel-midden at his door."

The jaw reached me safely, and I have now the pleasure of laying it before you. Mr. Busk, in whose hands I have placed it, does not detect any conformation differing from that of a jaw belonging to a normal brachycephalic cranium; it is apparently that of an individual of twenty-two or twenty-three years of age, corresponding in this particular with the age assigned by him to the skeleton. It may be remarked, however, that indications of considerable antiquity are

stamped upon it, in the large amount of wear which it has suffered. In commenting upon the valuable communications of the Rev. Mr. Leslie and Mr. Jeffrey, I am inclined to doubt the exactness of the measurements of the slabs which formed the walls of the kist, the estimates formed during my visit to it, severally by the party, four in number, giving measurements which I shall afterwards have occasion to mention. Mr. Lubbock has so exactly described the kjökkenmöddings in a late paper (*Natural History Review*, July 1863), that I will not engage the time of this meeting with any detailed account of them. I am glad, however, to be able to add somewhat to his notes. The absence of pottery he comments upon as remarkable. Since his visit two small fragments have been obtained by my friend Dr. Taylor, of Elgin, and Dr. Gordon picked up another during the visit paid with me. This I now exhibit. It is very coarsely burnt, and of the rudest manufacture. The flint weapons referred to by Mr. Jeffrey have again been met with. The indefatigable exertions of Dr. Gordon have resulted in the discovery of five, which he has been good enough to send me, picked up in the midden nearest to the kists.

The skeleton left with such singular abstinence by Mr. Leslie was obtained by me while exploring the district in the company of the Rev. Dr. Gordon, his son, and Mr. Harvey Gem. We visited the shell mounds situated upon the sandy dunes of Bennet Hill, a mile from Burghead, and, after examining their contents, we turned our attention to the small cairns of rudely-piled stones, which lie a few yards (inland) from one of the shell-middens, and which evidently mark the burial places of the tribe. Two of these were piled around small inclosed spaces formed by the junction of four upright stones. A fragment of human jaw lying in the sand outside one of these led us to search among its sandy contents for other bones, but unsuccessfully. The second cairn, however, with its central kist, yielded us better evidence. This, like the neighbouring tomb, was a rude erection of four flat sandstone slabs, placed vertically so as to enclose a space 30 inches long by 20 in width. The depth of the stones, which nearly corresponded with that of the grave, was 22 inches. Three of the stones had been slightly smoothed before use.

The cavity thus formed was filled with sand, into which we dug, and presently succeeded in discovering a skeleton, which had apparently been buried in a crouching position, the legs below the knee being bent beneath the hams, and the head bowed towards the knees. The skull was strongly brachycephalic, and presents other peculiarities, which Mr. Busk has described in the valuable note attached to this paper.

From the position of the skeleton, I was at first inclined to consider that no disturbance of it had taken place, but the communications of Mr. Leslie and Mr. Jeffrey are of course conclusive on this point. Unluckily, the box in which the bones were packed suffered a breakage during its transit from Elgin to London, and some of the vertebræ, with other smaller bones, were lost.

The following note upon the skeleton has been contributed by Mr. Busk, F.R.S. :—

"The human bones found by you at Bennet Hill have belonged apparently to a young individual, about 5 feet 8 or 9 inches in height, of slight make, and no great muscular development. At first sight, from the comparative delicacy of form, and want of muscular impressions, one would be inclined to regard them as those of a woman, but if so, she must have been of more than the usual stature. Unfortunately, no part of the pelvis, which would enable a correct judgment as to this point to be formed, is found among the remains. If the owner were a man, he must have been of small size, and, as I have said, not of a strong build, and with a remarkably small head for a male. The cranium is decidedly brachycephalic, the proportions of length to breadth being as 1·00 to ·823, and, for its size, rather unusually high, the proportion of that dimension being to the length as ·808 to 1·00. The forehead is narrow, and the superorbital ridges very slightly projecting, although the frontal sinuses are well developed. Compared with other ancient crania, the present may be regarded, I think, as belonging to the same class as those which have been considered as appertaining to the stone period of the north of Europe. Amongst these, I have selected a few whose dimensions approach nearest to the Bennet Hill skull, and these will perhaps suffice to show how far they all approximate to one type. I have also added the length, and least diameter of the long bones; beyond this they call for no particular remarks. As regards the chemical condition of the bones, it seems to me in some degree remarkable that they should have retained so much as 35·5 per cent. of animal matter. The amount of carbonates is about the same as in recent bone, or perhaps rather more, viz., 10·000, and the bones appear to contain about the usual amount of fluorine found in recent bone. They are slightly impregnated with iron."

I may mention, in conclusion, that a similar kist was opened by Dr. Davis, of Stafford, many years ago, at Roseile, about a mile to the S.E. of the Bennet Hill, and a human cranium and leg bones obtained, probably referable to the age of this skeleton. No doubt others will, ere long, be met with, for kjökkenmöddings are being discovered in numbers along the N.E. seaboard of Scotland, and it is natural to suppose that the graves of the ancient mussel-eaters should accompany the evidences of their occupation during life.

	Length.	Breadth.	Height.	Least frontal width.	Greatest ditto.	Parietal width.	Occipital ditto.	Zygomatic ditto.	Frontal radius.	Vertical radius.	Parietal ditto.	Occipital ditto.	Maxillary ditto.	Nasal ditto.	Circumference.	Longitudinal arc.	Frontal ditto.	Parietal ditto.	Occipital ditto.	Frontal transvers arc.	Vertical ditto.	Parietal ditto.	Occipital ditto.	Proportion of breadth to length.	Do. of height to do.
Bennet Hill ..	6·8	5·6	5·3	3·6	4·5	5·1	4·3	..	4·4	4·33	4·3	3·55	..	3·5	19·4	13·7	4·8	4·6	4·3	11·7	12·3	12·5	11·	838	·808
Danish stone 1	6·85	5·45	5·8	3·8	4·5	4·8	4·5	5·3	4·6	4·8	5·0	3·4	4·0	3·7	19·4	14·3	5·0	5·0	4·3	11·8	13·0	13·2	11·4	·795	·850
Females	6·85	5·5	5·3	3·7	4·65	5·3	4·4	4·9	4·3	4·0	4·8	3·8	4·2	3·9	20·4	13·9	4·9	4·7	4·3	13·0	12·6	13·0	10·4	·802	·802

Dimensions of Cranium, compared with those of two belonging to the Stone Period in Denmark, of nearly the same size.

	Length.	Least Diam.
Femur	17·25	0·95
Humerus	12·0	0·7
Radius	9·25	0·45
Clavicle.....	5·5	..

Mr. CARTER BLAKE congratulated the Society on having so lucid an account of these remains placed before them, in which the specimens which Mr. Roberts had obtained with such industry and energy had been described by Professor Busk in the most complete manner. As some confusion, however, appeared to exist respecting the signification in which Professor Busk used the words, "strongly brachycephalic," when speaking of a skull whose proportions were $\frac{82\frac{3}{4}}{100}$, he would hint that it would be very convenient if a more minute subdivision of skulls, classified according to length, on the plan of M. Paul Broca, could be adopted. M. Broca, while adhering to Professor Retzius's general classification, arranged certain skulls which he obtained from a cemetery in La Cité, as follows:—

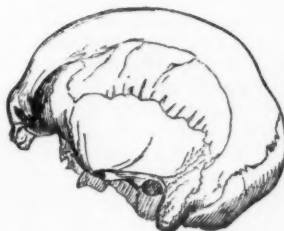
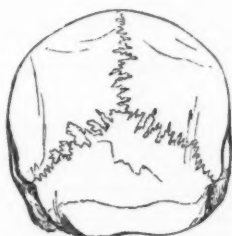
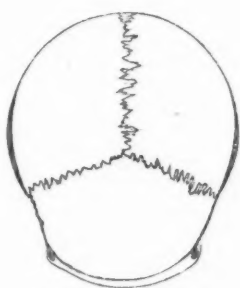
1. *Dolichocephali*. Index smaller than 77·7 per cent. {
 - A. *Pure Dolichocephali*. Index smaller than 75 per cent.
 - B. *Subdolichocephali*. Index ranging from 75 to 77·6 per cent.
2. **Mesaticephali*. Index ranging from 77·7 to 79·9 per cent.
3. *Brachycephali*. Index of 80 per cent. and beyond. {
 - A. *Subbrachycephali*. Index ranging from 80 to 84·9 per cent.
 - B. *Pure Brachycephali*. Index of 85 per cent. and beyond.

It would be seen that this skull would be classed amongst the subdolichocephali by M. Broca, who reserved the term, pure brachycephali for such skulls as those from Kellet,† in Lancashire, $\frac{82\frac{3}{4}}{100}$, or from some of the Danish tumuli of the stone period. With respect to the skulls which had been derived from undoubtedly Celtic burial places,‡ by Mr. George Tate, F.G.S., and others, one of them had been described by Dr. Barnard Davis. Its cranial proportion was $\frac{80}{100}$. To such a skull as this it would be scarcely accurate to apply the term brachycephalic in any other sense than as implying that they presented a short-headed type, which Mr. Tate identifies on evidence of the highest archæological value with that of the Northumbrian Celts. He, however, did not interpret Mr. Tate's observation as implying any hypothetical resemblance between the cranial type of the Northumbrian Celt and that of the more markedly brachycephalic Danish mound builder. He felt confident that the evidence which such observers as Mr. Tate and Mr. Roberts had discovered would speedily

* From *mesátios*, average.

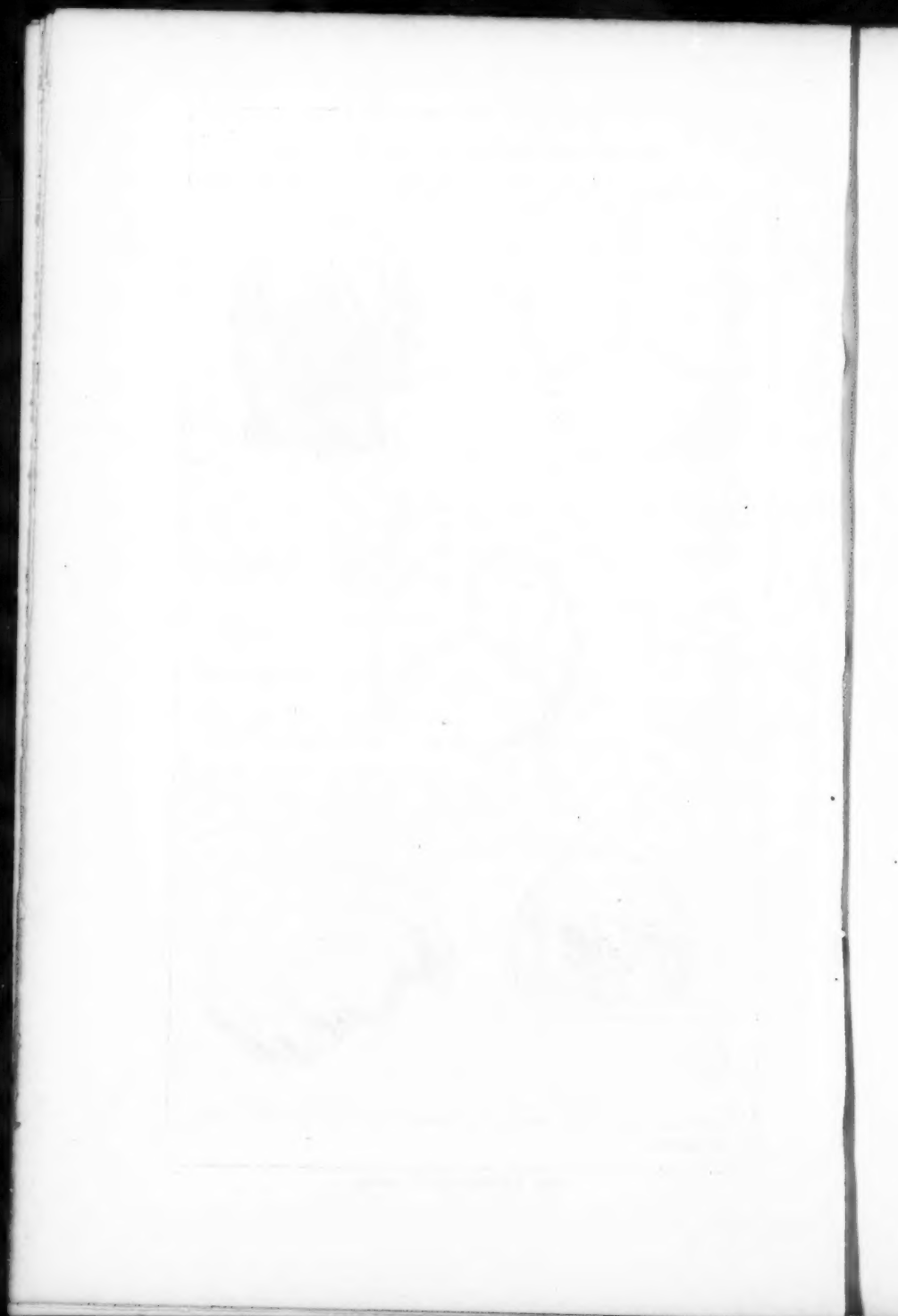
† Geologist, 1862, p. 424.

‡ Anthrop. Review, vol. i, 425. Trans. Berwickshire Naturalists' Field Club, p. 412.



G. Busk del.

THE BENNET HILL SKULL.



place a series of accurate, well-ascertained facts before us, which may hereafter enable us to generalise on the subject, a task we cannot as yet accomplish.

Mr. ROBERTS offered a few remarks on the bones on the table, which had been procured by himself. Three or four kists have since been discovered along the sea-board of the Tarbotness promontory.

PROFESSOR MARSHALL inquired the exact date of the skull?

Mr. ROBERTS replied, that, as the oldest and most indeterminate form of flint implement (the simple flake) was met with, the exact date could not satisfactorily be ascertained.

Mr. A. A. FRASER inquired, whether any larger or better worked flints have been obtained from the same locality, to which Mr. Roberts replied in the negative.

PROFESSOR MARSHALL remarked, that the foramen jugulare was much larger on the right than on the left side, in the Bennet Hill skull, a fact to be accounted for by reason that the right jugular vein went direct to the heart, whilst the left one crossed over indirectly. As the viscera in the body have often been transposed, so that the heart was found on the right side, it was interesting to find that in the Bennet Hill skull no departure from the normal type was visible.

Indian Tribes of Vancouver's Island. By CAPTAIN EUSTACE W. JACOB.

Vancouver's Island is chiefly, if not altogether, inhabited by the Nootka Sound Indians (Flat-heads), speaking the Wakarh language, and falling into the following tribes:—Naspatl; Nootkans proper; Ilaquoatsh; Nittenat; Shuswah, or Atna; Kitunaha.

Like other Indian tribes, the Nootka Columbians are a dirty race, living in poor huts formed of planks or logs. The men are slow in their movements, lazy. The legs of the squaws are crooked, giving them when walking a waddling gait, anything but graceful. They are black haired, the locks worn long and flowing; stunted but muscular, both sexes of nearly equal height, with good teeth and fine eyes—treacherous in character. The complexion is a copper-brown, not very dark, some of the women, indeed, are little darker than Europeans: of a far lighter complexion than English gipsies. The language is remarkably guttural, sounding like the clicking of a clock, the voice proceeding entirely from the throat. The travelling dress is usually a blanket, purchased at the Hudson's Bay Company's store, the women carrying their kettle or large round cauldron at their back, attached by a hempen band passed round their forehead. Chinook, a jargon composed of English, French, and Spanish words, strung together without the smallest attempt at grammatical construction, is the medium of communication between these Indians and the white races.

The Nootka Columbians, like other Indian tribes, have no pretension to morals. Many of the women are married, at least to all intents and purposes, to the older residents. Those who live in the neighbourhood of Victoria by concubinage and prostitution, imitate Europeans in dress,

wearing gowns, generally of some very bright colour, such as chrome-yellow, crinoline, hair-nets, with straw mushroom-shaped hats with large rosettes in front, or otherwise tie a coloured cotton or silk handkerchief round their heads, as Chinese women. These semi-civilised Indians delight in having their *cartes de visite* taken, and the women possessing exuberant spirits and not the smallest trace of *mauvaise honte*, are especially vain. The face, in most of the photographs which I saw, wore a sullen, melancholy air, calculated to give a stranger an erroneous idea of the general expression of countenance. The boys are fond of gay crimson and blue ribbons, with which, like the young recruit, they deck their caps. When trained by Europeans, the boys make capital and smart servants. Naturally they are of a nomadic disposition, and dislike being tied down to employment of a permanent character. The heads of the children of the free men and chiefs are flattened by means of a stone tied to the head of the new born child.

I fancy that many of the Indian curiosities, supposed to be of great antiquity, are merely made for sale. The rude wood carvings and imitation jewelry show an aptitude for handicraft. Queen Charlotte's Island, inhabited by the Haidah tribe, is the great manufactory. Mr. Pemberton has stated in his "Facts and Figures," that he has known an Indian stock a gun; that in addition to carving their pipes, and constructing their canoes, they raise enormous weights in the construction of their dwellings; that they are eminently commercial, and can generally make a rude map of the country that they travel through; that they distribute periodically their wealth, divide legacies, and bear pain heroically. It is to be regretted that Mr. Macdonald, C.E. and others, should have drawn such highly coloured portraits of the native tribes. Long may the Colonial Government, while protecting the rights and mercantile interests of the settlers, remain "supine." Considering that the native tribes in Vancouver's Island outnumber four times the foreign settlers, a harsh policy, bringing the natives into collision with the settlers, would be greatly to be deprecated, to say nothing of the higher ground by which the matters should be weighed—the cause of justice and humanity. The nearness of the American coast, and the number of American settlers in Victoria, promotes in great measure the hostile feeling. No attempt is made by the settlers to ameliorate the condition of the native tribes, whose behaviour, on the whole, is good. I have seen both men and women, despite the stringent laws respecting the sale of intoxicating drinks, lying drunk in the streets of Victoria. The number of the natives is estimated at 18,000. Those in the immediate neighbourhood of Victoria have been transported to the north of the Island, were driven away, or have been decimated with small-pox, which proves almost invariably fatal. The disease is attributed to the Europeans by the Indians, and tends to increase the bad feelings which exist.

There are Indian remains of rock and stone which are deserving of notice, and are thus described by Dr. Forbes, R.N. in his "Prize Essay," published on the spot by the Colonial Government in 1862:

"Scattered in irregular groups, of from three or four to fifty or more, these stone circles are found, crowning the rounded promontories

over all the south eastern end of the island. Their dimensions vary in diameter from three to eighteen feet: of some only a simple ring of stones marking the outline now remains. In other instances, this circle is not only complete in outline, but is filled in, built up as it were to a height of three to four feet, with masses of rock and loose stones, collected from amongst the numerous erratic boulders which cover the surface of the country, and from the gravel of the boulder drift, which fills up many of the hollows. These structures are of considerable antiquity, and whatever they may have been intended for, have been long disused, for through the centre of many, the pine, the oak, and the arbutus have shot up and attained considerable dimensions—a full growth. The Indian, when questioned, can give no further account of these stone circles than that 'they belonged to the old people,' and an examination, by taking some of the largest circles to pieces and digging beneath, throws no light on the subject. The only explanation to be found is the hypothesis, that these were the dwellings of former tribes, who have either entirely disappeared, or whose descendants have changed their mode of living, and this supposition is strengthened by the fact that a certain tribe on the Fraser river did, till very recently, live in circular bee-hive shaped houses, built of loose stones, having an aperture in the arched roof for entrance and exit, and that in some localities in Upper California the same remains are found, and the same origin assigned to them."

Possibly Dr. Forbes may be wrong in his deductions as to the antiquity of these primitive houses. One can imagine the use of these underground tenements in a cold and inclement climate like that of British Columbia, viz.: to ensure warmth, but the climate of Vancouver's Island approaches that of Italy, and severe winters, like that of 1861, are the exception. All Indian tribes are warlike, but some are more peaceable than others, and we may suppose that a peaceful tribe inhabited these circular barrows, which served two purposes, that of a concealed abode and a fort, impregnable to rude native weapons of war. Granting that this was the case, what more likely than that these circles were purposely built up round the trunks of trees, whose foliage and shade would contribute towards concealment. The word of the Indian is not to be depended upon, and there are few nations which do not, like the Chinese, magnify the antiquity of their institutions and discoveries. The disappearance of the tribe would of itself be no proof of antiquity, as in the year 1862, the tribe living opposite to Victoria, numbering 2,500, may be said with truth to have disappeared through the ravages of small-pox. The rapidity with which Indian tribes in both hemispheres melt away before the advances of civilisation, or rather, to drop fine words, before intoxicating spirits, immorality and its concomitant disorders, is a matter about which there can be no dispute. May we not ask what the Aborigines Protection Society has done in respect more particularly to the colony of Vancouver's Island, to give vitality to those admirable doctrines which it has inculcated at home?

A colony was formed at Cowitchan in August 1862, and a gun-boat took the Surveyor-General and others, who finally arranged matters

with the Indian chiefs. The native population of this district—comprising 57,658 acres of wood and pasture land—is estimated at from 800 to 1,000 souls. These powerful native tribes have always shown a friendly disposition towards the white settler, and their language is either spoken or understood throughout the west coast. All appear to delight in paint and feathers, and although proud for a time when equipped in European clothes of domestic service, return, through sheer love of an unsettled life, to the bush. Wild fruits, as the cluster cherry (*Cerasus Racemosa*), sallal berry (*Gualthrubria Shallon*), cranberries; crustacea, chiefly crabs and mussels, camass, or the native onion (*Scilla esculenta*), and the potato, form their food. The hemp-nettle grows wild and is made into twine for fishing-nets. The natives naturally claim the land as their own by right of inheritance, but are happy to part with it for what they term “a little big price,” which may be considered tantamount to as much as the settler can conscientiously pay. The English missionaries appear to be popular, as, with the exception of the Governor of the colony, they seem to be the only persons who do not think that the natives “ought to be rooted out like tree-stumps,” etc.

A story told by Mr. Macdonald shows that the Nootka Columbians are not wanting in parental affection. “An old Indian and his wife were seen bitterly weeping in front of the prison at Victoria. When asked the cause of their distress, they said they were crying for their son who was sick in prison, his ailment being a spitting of blood. On being told that they might see him in the court-house, they instantly arose and went thither. The scene was very affecting. The weather-beaten and worn-out old warrior bent over his unfortunate boy, his breast heaving with sorrow, and streams rolling down his furrowed cheeks. The sight quickly reached the lad’s heart; he hid his face and poured out a flood of tears. He was sentenced to twenty days’ hard labour. In the afternoon of the same day, the old man, his wife, and a middle-aged Indian stood before the magistrate’s house. The father’s plea was: ‘Our hearts are filled with trouble for our son. We cannot cease to weep continually. We cannot sleep. Our son is spitting blood. He will die in prison. He cannot work.’ The old man then petitioned, pointing to his equally anxious friend: ‘Let this man take the place of our boy in prison. He is strong. He can work. Our son will die.’ The proposed substitute then entreated that he might suffer instead of the boy, asserting his own willingness and power to work, and the boy’s inability.”

On the motion of Dr. Hunt, seconded by Mr. Bollaert, the thanks of the Society were voted to Mr. J. Frederick Collingwood, for the able manner in which the translation of Waitz’s *Anthropologie der Naturvölker*, published by the Society, had been edited by him.

Mr. Collingwood briefly responded, after which the Meeting was adjourned.

NOVEMBER 17TH, 1863.

Sir CHARLES NICHOLSON, Bart., V.P., in the Chair.

The minutes of the previous meeting were read and confirmed.

The following new members were announced: Augustus S. Wilkins, Esq.; Alfred S. Rogers, Esq.; George Boulton, Esq.; George Nesbitt, Esq.; Spyridon Glaucopides, Esq.

Corresponding Members. Dr. Carl Vogt; Prof. George Pouchet.

Local Secretary, England. Dr. Farquharson.

Local Secretaries abroad. S. Stafford Allen, Esq.; D. Bogge.

The Secretary read a list of the presents received by the Society, for which thanks were voted to Hekekyan Bey, the Royal Institution of Cornwall, Dr. Beke, Sir W. Jardine, F.R.S., Dr. Cuthbert Collingwood, the Royal Geographical Society, and the Imperial Academy of Sciences of Vienna.

The following paper was read:—

*On the Negro's Place in Nature.** By JAMES HUNT, Esq., Ph. D., F.S.A., F.R.S.L., F.A.S.L., President.

Dr. HUNT commenced by stating that facts relating to the physical, mental, and moral characters of the Negro have never been brought before a scientific audience in London, while in France, America, and Germany these subjects had been fully and freely discussed. There existed a considerable amount of literature on the subject, but it was unfortunately distinguished by an acrimonious tone. It was hoped to bring forward facts which would dispel some of the delusions which now existed respecting the character of the Negro race. A comparison was drawn between the anatomical differences existing between the Negro and the ape on the one hand, and between the European and the Negro on the other. It was stated that the Negro was generally of shorter stature than the European, but that the difference was greater in proportion than in form; that the bones were thicker and heavier; the trunk short and the arm long in proportion, reaching to the middle of the knee. The hips were represented as narrow; the thigh laterally compressed; the fingers of the hand long and flat, and the thumb long and very weak; the foot flat, and the heel both flat and long; the pelvis narrow, especially in the male; the teeth hard, and the molars usually very large. On all these points there appeared a nearer approach to the ape than was seen in the European. The brain of the Negro had been proved to be smaller than in the European, Mogul, Malay, American, Indian, and Esquimaux. The facial angle was generally between seventy and seventy-five degrees, and sometimes as low as sixty-five degrees. The frontal sutures closed much earlier in the Negro than in the European. The brain both of Negro and ape more resembled that of the European when the latter was in an infant state than when older; at puberty all development in the brain of the Negro ceased, and the form of the

* This paper has been published for the Society by Trübner and Co., pp. 60, price 1s. It will also appear in the volume of Memoirs which have been read before the Society, and which are now in the press. EDITOR.

skull became more ape-like as he increased in years, while the ape became more brutish as he got old—a circumstance which entirely accorded with the psychological fact that all increase of intelligence after the age of puberty was impossible. The hair of the Negro was represented as distinct in structure from that of the other races of man. The structure of the larynx and palate was also different to that of the European. It had yet to be established whether the offspring of the European and Negro were indefinitely prolific—many facts, together with the researches of Broca, leading to the conclusion that these mixtures were only temporarily prolific, and died out after the lapse of a few generations. The Negro had had the benefit of all the ancient civilisation, but there was not a single instance of any pure Negro being eminent in science, literature, or art; nearly all those who had become reputed for their talents could be proved to have had European blood in their veins. The circumstance of European features being found amongst Negroes, as has been frequently asserted, has been denied by M. Pruner Bey, who has examined many thousands. What civilisation they had was imitated, and they had never invented an alphabet, nor reasoned out a theological system. The Negroes in Africa were subject to the cruelest forms of superstition, and were the victims of the most frightful cruelty and torture. Domestic slaves were not generally sold except for some crime, and a large portion of the exported slaves were criminals. Numerous opinions were quoted to show the low mental character of the Negro. The following general deductions were made: First, That there is as good reason for classifying the Negro as a distinct species from the European as there is for making the ass a distinct species from the zebra; and if we take intelligence into consideration in classification, there is far greater difference between the Negro and Anglo-Saxon than between the gorilla and chimpanzee. 2nd. That the analogies are far more numerous between the Negro and apes than between the European and apes. 3rd. That the Negro is inferior, intellectually, to the European. 4th. That the Negro is more humanised when in his natural subordination to the European, than under any other circumstances. 5th. That the Negro can only be humanised and civilised by Europeans. 6th. That European civilisation is not suited to the requirements and character of the Negro.

Sir CHARLES NICHOLSON, Bart., V.P., said: We must have all listened with immense satisfaction to the very able, elaborate, and graphic paper read by our President. Reserving to myself the privilege of offering a few remarks before the conclusion of the debate, there is one point to which I would wish now to invite attention. It is a point not adverted to by my excellent friend the President, but it is of some importance as determining the fact as to the distinct character of the Negro and the Negroid races from the higher European or Aryan type. The question I would invite attention to is this: Whether the parasitic animals which belong to the Negro are distinct from those which belong to the European type? A very

distinguished friend of mine, Mr. William Sharpe M'Cleay, with whose name many here are familiar, resided for many years in the West Indies, having filled the office of Commissioner in Cuba. He had very decided opinions on this subject, and I may say that they are in entire accordance with those propounded to night by our President. It is, perhaps, known to many persons that Mr. M'Cleay is very distinguished as an entomologist, and I have heard him affirm with great confidence that the parasitic animals—the entozoa and those troublesome parasites that infest all animals—are distinguished in the Negro from those which infest Europeans. Probably some one will be able to give information on this point, because, no doubt, if it could be shown that the parasites that infest the body of the Negro are different from those which infest the European, it would go a long way towards establishing the specific difference which I think most persons present are prepared to admit between the European and the Negro.

Mr. S. E. BOUVERIE PUSEY said: I feel rather reluctant to address you after the excellent paper which has just been read, especially as there are many present who are much better qualified to do so than myself. I have, however, a few words to say on the subject. In very many examples, when the Negro has come in contact with European civilisation, he has been what he is in Cuba now, a slave for at least five or ten years, worked to death and then replaced by other slaves. In the Confederate States, where he has fallen into the hands of what I would call a noble people, he is unquestionably better treated; but till recently, owing perhaps to overcaution, any progress in knowledge has been much discouraged. However, the inhabitants of the Confederate States are many of them convinced that the Negro can be made a skilled artisan—an artisan of any kind. My authority is Mr. Pratt, of Carolina, a Louisianian delegate. It is true that they do not distinguish accurately between the Negro and the Mulatto; and it is remarkable how many examples of clever coloured men are Mulattoes. But it is not exclusively the case. I think we can point to one example of a pure black man, eminent both as a statesman and warrior—Toussaint l'Ouverture. When we consider how Toussaint played the French and the Spanish one against the other—when we consider his self-control and wise legislation—we cannot doubt that, though he was by no means the chivalrous hero represented by the Abolitionists, he was a man of splendid abilities. It is essential to know what tribe of Africans he belonged to. The slave says, "As stupid as a Congo nigger." Now, I am curious to know if he was a Congo Negro, or whether he was born of parents belonging to a higher tribe of Africans who accidentally got there. The superiority of the white man is admitted by the Negroes. The Mulattoes form the aristocracy, and the creed of the Negro is, that "a hundred black girls won't make one Mulatto yellow girl." I quite concur in the whole with what our President has stated, that the Negroes are a different species from the white man.

Dr. SEEMANN. I can only say that I agree in most of the principles that have been advanced tonight. I fully agree with Dr. Hunt in

considering the white man and the Negro distinct species. There is one thing that is very curious, that, while in the Negro children we always observe a very great sharpness up to a certain age, the most clever Europeans frequently turn out to be dunces up to a certain period. With regard to the colour of the Negroes, I think the darkest Negroes I ever saw were in Egypt, and they came from Nubia.

The CHAIRMAN. You would not consider the Nubians Negroes?

Dr. SEEMANN. No; but they came through Nubia. With regard to their not being prolific beyond a certain crossing, I am quite of that opinion. I made observations myself, and often inquired into the subject while staying at Panama and South America. I think the Negroes are very prolific up to the first or second cross, but after that the children are apt to die. I believe they are incapable of exercising any leading position in the world, and that they are best off when slaves or in an analogous position. I do not think that any amount of education will make them anything but what they are.

Mr. WINWOOD READE: I may be, perhaps, allowed to mention, that I spent fifteen months on the west coast of Africa, in equatorial, south-western, and north-western Africa. I have, therefore, had opportunities of seeing a great many types of Negroes, though not perhaps of studying them very deeply. Western Africa is divided into highland and lowland, the latter running along by the sea coast. On the highlands are found the Africans; on the lowlands the Negroes. The typical Negroes inhabiting the sea-board have always been carried away by slavers or sold to them, and therefore those persons who have not visited the interior of Africa have always supposed that the Negroes truly represent the inhabitants of the continent, but that is not the case. They inhabit, comparatively speaking, a small area. It is a difficult subject, but I believe that the Negroes belong to the African races and are simply degraded. They possess among themselves traces of a civilisation that cannot be ascribed to the influence of Europeans. Dr. Hunt has said that several mechanical arts have been found among those Negroes that have been visited by Europeans. That is so; but on the other hand, though those arts are sometimes retained, the general effect of the importation of foreign articles is to destroy native industry. If you take cloth over there they do not make their own cloth any longer. The same with regard to their implements of iron, their weapons, and those sort of things. If you take over the iron they will simply forge the heads of the arrows, but they will not fetch down the native iron from the interior. And so with regard to everything else. I am, therefore, inclined to believe, that the Negroes are simply degraded Africans. With respect to the mental powers of the Negroes, nobody who has ever been in Africa will suppose for a moment that the Negroes approach the Europeans in any respect. If the Negroes are equal to the Europeans, the Africans are superior to the Europeans; for the Negroes are far inferior to the other Africans. The Negroes may be said to resemble schoolboys; it is impossible to make them work. They will not learn anything unless you make them. You must flog them occasionally. It is not necessary, of course, to treat

them badly, but corporeal punishment is absolutely necessary. With respect to the means of civilising the Negroes in Africa, nothing, I think, will ever be done by missionaries or by sending out people to Africa. The Mohammedans at present are civilising a great part of Africa by converting the inhabitants to their own religion, and by teaching them Arabic (for wherever the Mohammedans go the Koran goes with them), and by elevating their character in every possible way. For example; they forbid drunkenness, which is the great vice of the Negro, but which the laws of the Mohammedan religion forbids. With respect to the slave trade, it must certainly be abolished now, because there is no demand for the Negroes in America; in fact, they do not know what to do with the Negroes they have, and I fancy they would rather have them out of the country than in it. The only real demand for slaves is in Cuba, and Cuba doubtless will be ruined when the slave trade is abolished. We must not forget that it was owing to the slave trade that America and the West Indies attained to their prosperity. What would those countries have been without the assistance of the Negroes? We know what the West Indies are, and yet we did Africa no harm by their exportation. The most distinguished of our early navigators were slave traders, and a few hundred years ago a man was knighted for doing that for which he will now be hanged. If we were to consider the question from a philanthropic point of view only—that considers only the happiness of the Negro—I should say, certainly, “Don’t abolish the slave trade.” To take a Negro from Africa and carry him to America is the greatest benefit that can happen to him. It is like taking him out of hell and putting him in Paradise. With respect of the capabilities of the Negro for future improvement, I see no reason to despair of making something of him; but we must not try to feed the baby at the breast with strong meat. We must not suppose that the Negro is equal to ourselves, or else, what is the use of educating him? If the Negro is equal to us now, let him show it. Let us try to elevate his character and to educate him. Let us modify certain laws of slavery; for instance, we might imitate the Arabs. The Arabs of Africa allow any slave to redeem himself by paying a certain amount of money, and they give him a certain portion of time to work in, so that if he is really industrious he can always liberate himself. There is no reason why that should not be done in America. Perhaps that would be the best means of liberating slaves, because then only the industrious ones would be liberated, while the idle ones would remain in slavery, which is the proper place for them to be in.

MR. PUSEY: Are any of the tribes commonly known specimens of the African as opposed to the Negro? For instance, the Mandingoes or Foulahs.

MR. W. READE: They are Africans.

MR. PUSEY: The principle of allowing Negroes to redeem themselves has been carried out in Brazil with the best results.

DR. MURIE: I have listened to the paper with great interest; and I think we should look upon the subject in a twofold view. The authorities Dr. Hunt has given go so far as to prove that the African

does not possess the same mental and moral attainments as the white race. But there is another question that he entirely omits. Whatever may be the effect of the one race or the other possessing less or more brain, or physical development, the question arises, "Have the white race any right whatever to enslave their brother?" Even in Europe there are physical differences of race, and doubtless it is the same in Africa. You see in Africa tribes which differ materially from one another in colour and physical development. You have the west coast and you have the inner tribes; but I cannot see what the difference is between the African and the Negro. If the Africans are not of Negro blood, that involves a question of variety of race, which is rather a ticklish one to deal with. I think upon the whole that the authorities quoted by Dr. Hunt are quite sufficient. They are all authorities that have weight, because most of the persons in question have travelled in Africa, and have collected considerable anatomical and physiological data. We are much indebted to Dr. Hunt for having collected so many authorities on the subject. With reference to the different class of parasitical animals in the Negro, I can assure you that the fact mentioned by the chairman is quite established. A professor in the school of Mehemet Ali at Cairo, has made observations as to the entozoa of the Negroes that came under his inspection, and he states that the entozoa of the Africans are different from those of the European. But though that may be true, I do not see how we are to infer that they are distinct races because of that alone, for the species of parasite may depend partly on the climate.

Mr. J. REDDIE: I rise rather to ask for information than to venture to criticise, either the admirable paper or the observations that have been made upon it. I think that the question as left by Dr. Hunt, has been somewhat altered by the observations of Mr. Reade as regards the very great difference between what he distinguished as the African and the Negro. I should like to know, if that difference is so very marked, whether he considers them as different species as well, because it rather complicates the question. He went so far as to say that if the Negro was equal to the European the African was superior to the European. Now, I suppose, no one will maintain that he is equal *de facto*, but only *in posse*—that he is of the same humanity and can be educated up to the European. I should like to hear that point explained. Before I sit down I would beg to make another observation as regards one part of Dr. Hunt's paper. It seems that the slaves that are sent to America and elsewhere are the very lowest of the population of Africa. They are that very inferior race that the proper African is so superior to, according to Mr. Reade. Well, in that case, I think that we have scarcely allowed the Negro a fair chance, because I should like to know what success we have had in educating our own refuse population? The events of the last few months, as regards ticket-of-leave men, to go no further back, show that it is a very difficult thing to alter the moral and intellectual developments of a human being. And unquestionably, if the race of Negroes that are in the Southern States of America are from the very lowest criminal population in Africa, I think it would be a very interesting subject for phil-

anthropists to know what effect the same treatment, pursued with regard to Europeans of a higher education, would have upon the better classes of Africans—those who are not, so to speak, hereditary thieves and everything that is bad. We know that even among our own criminal population there is supposed to be a sort of hereditariness, so to speak, and therefore we may have an easy explanation of the proverbial thievery of the Negro.

MR. READE: The "Africans" inhabit the interior of Africa, and are therefore not so commonly known to the traders, missionaries, and military men who visit the coast, as the "Negroes." The coast of Africa is formed of terraces which gradually mount from the sea. On the sea-board are found typical Negroes; on the first terrace an intermediate race. On the terrace beyond that is found the race which, as far as I have been able to discover, are something like the ancient Egyptians in their habits—more like them than the Arabs. Certainly the specimens of Africans which have been received in America are pretty much the same as if the inhabitants of Whitechapel had been sent out to any country as specimens of Englishmen. But those Negroes that have been sent to America have been judged of by phil-anthropists who have had no opportunity of judging of them in their own country, and they say that these Whitechapel Africans are the men who are equal to ourselves. I may observe that these delicate distinctions between the Africans and the Negroes have not yet been established. I believe I am almost the first to draw the attention of Anthropologists to them. I believe that what is called the typical Negro—the black-skinned, woolly-headed, Negro—is so distinguished on account of the moist and deleterious climate.

MR. PUSEY: Among the slaves imported to the West Indies, and in former times to the Southern States of America, the Mandingoes formed a principal feature, and Mr. Reade tells us that they are Africans as distinguished from Negroes. It would be a mistake to suppose that the slave trade has not prevailed in the Southern States of America for the last fifty years.

MR. READE: On what authority do you know that the Mandingoes were the Africans who were chiefly exported?

MR. PUSEY: They were the principal—one tribe among many. My authority is Long's *History of Jamaica*. Mr. Long was a slave owner in the time of the slave trade. Another authority is Bryan Edwards, one part of whose work is devoted to giving an account of the different tribes exported, and their different characteristics. I cannot remember all the different tribes, but the Mandingoes were one principal one, and the Kroomen were another.

MR. READE: The Mandingoes were Mohammedans, and as they were not allowed to sell slaves to foreigners, I should think Mr. Long must be mistaken.

MR. PUSEY: In Dr. Manton's and other writings, you will find mention not infrequently of Mohammedans among the slaves, and persons that could write Arabic.

MR. LEWIS FRASER: I have not been able to find those distinct races that Mr. Reade says are to be found so easily. I have

been some hundreds of miles in the interior on more occasions than one, and certainly the natives are Negroes right away through; but as you get into the interior they get mixed with the Mohammedans, and there you find that they are Mohammedans and not Negroes, though they may have black blood in them. There are distinct races and tribes, and you can know what tribe a man belongs to by his marks. As to those exported to the West Indies being the refuse of society, I must certainly differ from Mr. Reade there, for you can go and buy any body you please when you are in the country. Women sell their children, and I know one instance at least of a woman selling her child before it was born. Everytime she was with child she went and sold it. In fact, they will give their children away. The specimens that Captain Forbes brought to this country were given to him. They give a child away just as in this country you would make a lady a present of a pair of gloves. I might have had any quantity of them. And I may state that when girls are given, it is with a perfect understanding of the use to which they will be put, and not with the idea of their being brought to England. And as to their being black, it is a great rarity to see a black man. They are considered handsome when they are very black. It has been said that in North Africa they are generally black. I believe the other colours will not sell when they are brought north. They are all picked men. I am very glad to see that Dr. Hunt has brought this subject forward, for in nearly every point it represents what has been my feeling for years. I should like to have an interleaved copy of the paper that I might be able to make a few notes on some parts.

MR. CHARLES WORTH: There is one point in this paper about which I should like to make a suggestion. It relates to the physiological view of the subject. I refer to the sense in which the author uses the term "species." I have no doubt that the paper will attract attention both in this country and on the Continent; but so much attention has been directed to the views of naturalists in relation to the term "species," that it is important that Dr. Hunt should, in a note, or in some other form, indicate in what sense he uses it. Dr. Hunt told us that he considered the different types or modifications of humanity in the Negro race, as contrasted with the European, to be as entitled to specific distinctions as the different tribes of the equine race. That is, if you call the zebra and ass—and, perhaps, Dr. Hunt will add, the horse—if you call them different species of the genus *Equus*, you are also entitled to call the Negro and European different species. Now without meaning to call that in question, I would call the attention of this meeting to the fact, that in the popular and ordinary sense in which we use the term "species"—the sense, too, in which our highest authorities have used it up to the present day—we have considered these rather as varieties than as species, or races opposed to species—those animals, however, various in external character, which do readily intermingle and breed together, and in which the first two or three races are generally fruitful. Now the different species of the genus *Equus*, we know, are only fruitful during one or, at most, two generations, but, as it respects the Negro and European,

though there is a great deal of evidence to show that the intermingled races do ultimately die out, yet there can be no question whatever that they do breed together as readily as the native races among themselves. That is to say, that the Negro and European, when brought together under favourable circumstances, do as readily procreate as either of the races among themselves. I think that that is an important point to be considered in the definition which should accompany this paper as to the author's views of "species." One fact of great interest was brought forward by the chairman—perhaps I ought to call it an hypothesis. I mean that in reference to the parasitical animals. Now the real importance of that would, I think, altogether depend upon whether these distinct parasites accompany the Negro when moved from his native country to a different quarter of the globe. If we find in Negros' heads when in this country the same species of pediculi that we find in the Negros in Africa, and if that species is distinct from that which infests the heads of Englishmen, then the fact would doubtless be strong in favour of their being entitled to a specific distinction. These two points I believe to be of great importance, and well worthy the attention of this meeting.

The discussion was then formally adjourned till December 1st.

ORDINARY MEETING, DECEMBER 1ST, 1863.

R. S. CHARNOCK, ESQ., IN THE CHAIR.

The minutes of the previous meeting were read and confirmed.

The following new members were elected:—Dr. Berthold Seemann, F.L.S.; William Cort Wright, Esq.; A. T. Bledsoe, Esq., LL.D.; G. McHenry, Esq.; Frederick Lawrence, Esq.; John Edwin Mayall, Esq.

The SECRETARY read a list of the presents received by the Society, for which thanks were voted to the Society of Antiquaries, Dr. F. Royston Fairbank, and George McHenry, Esq.

Mr. C. CARTER BLAKE: At the last meeting of the Society a paper was read by Dr. Hunt "On the Negro's Place in Nature," in which the author communicated the conclusions to which he had been led by his own researches, and by the study of those French, German, and American authors who have treated upon the subject. Certain conclusions were advanced by Dr. Hunt, on which, with your permission, Mr. Chairman, I will comment at some length. I will restrict my remarks chiefly to those topics to which I, as a student of the anatomical relations of the various relations of men among each other, and of the relations which the totality of the races of men bear to the inferior animals, have paid attention. I shall, I say, restrict my remarks chiefly to the anatomical part of the question, and to those physiological and psychological remarks which directly flow from the anatomical facts which must be admitted by the majority of comparative anatomists. I hope there will not be introduced

into this discussion any opinions of a political nature, which are foreign to those objects for which this society is founded, that of ascertaining the physical facts respecting the races of man—respecting man as a whole—apart from any conclusions which may be engrafted on the mistaken or possibly true interpretation of those facts. Dr. Hunt, in a most able paper, in which he gave due prominence to the memoir which M. Pruner Bey contributed to the Paris Society of Anthropology, gave us a most lucid and complete account of the physical facts relating to the Negro race. Nevertheless, there are a few other facts, and as these, in the main, support his conclusions, I will further direct attention to them. Professor Owen, whose duty it was to complete a catalogue of the osteological collection of the College of Surgeons in 1853, observed, that the great character in which the Negro skull differed from the skulls of the majority of those Europeans with which he was acquainted in his experience, is, that the plane which the supra-occipital bone formed with the plane of the foramen magnum formed a far more obtuse angle than in any of what he termed the leucous races of man. That is one fact to which our special attention should be directed. Now this fact, like all other facts which have relation to the constitution of the occipital segment of man, has a higher value than any which we may be disposed to place upon it in a mere teleological sense (merely, as we may perceive, it may have relation to our acceptance of the doctrine of final causes), that has a deep significance in a morphological value. And as that significance has been brought out in a book that has been laid before the scientific world of England, during the past six months, by one of our most eminent comparative anatomists, I will, on this occasion, for once adopt the conclusions of Professor Huxley, and point out the wonderful relations which the angle of the occipital foramen in man bears to a line drawn along the basicranial axis. I shall point out to what a remarkable extent this angle differs in the various races of mankind. Professor Huxley, and other cranioscopists before him, among whom is Von Baer, have drawn a line from the anterior end of the sphenoid to the end of the basi-occipital; and they have drawn such line as a normal line, from which the axis of the cranium shall be measured. This line is a line comparable with a line drawn along the plane of the cranium, from the posterior edge of the basi-occipital to the lower end or edge of the supra-occipital bone, in point of fact, to the plane of the occipital foramen. And in the lowest individuals of the class mammalia, being such animals as the rat or hare, the angle which the plane of the occipital foramen forms to the plane of the basi-cranial axis is exceedingly acute, and so onward and upward it goes along a series of mammalia, whose direct ramifications I shall not attempt to trace before the Anthropological Society. When we come to the lower races of man—when we come to the Negro—we have a different angle of the plane of the occipital foramen with that of the basi-cranial axis; and such plane of the occipital foramen differs from that of the higher or white races in an appreciable degree. I have preferred to take this broad point of difference between the Negro and the higher and white races of mankind, because this is a point of difference which cannot

depend upon climate, civilisation, or upon any of those agents by which some people seek to regulate what they can conceive of the action of the laws which have operated in altering the races of mankind. Here is a broad, distinct, and marked difference between the dark races of mankind, of which, for the nonce, we may take the Negro as a type; and the white races of mankind. And here only I would be disposed to base a great distinction between the Negro and the White man. Then there are other differences, some of which have been pointed out by those anatomists in the Southern States of America—Dr. Nott for instance—which also have a great value, especially to the anatomist, inasmuch as they show, on the part of the anatomical configuration of the Negro, such a decided approach to the structure of the lower animals—in fact, to the apes—as comparative anatomists must adopt. All those who have had the pleasure of inspecting the skeleton of some of the anthropoid apes are aware of the slender shape of the iliac bones, or of the bones of the pelvis in those apes. And those who are inclined to accept what I deem to be scientific views as to the position of the Negro, will be also satisfied to learn that, upon the testimony of Dr. Nott, the average circumference of the pelvis of the Negro is so far off the average of the European, that it is usually from 26 to 28 inches, that of the White being from 30 to 36 inches. Another character which separates the Negro from the European is, that the scapula of the Negro is much sharper and broader than in the white races of mankind. If any of our members will take the trouble to examine a recent number of the "Transactions of the Zoological Society," and will follow out the minute comparisons which Professor Owen has there made of the relation of the bones of the upper extremity in the white, the Australian, the gorilla, the chimpanzee, and the *Oran-útan*, I think that such a comparison will be productive of most beneficial effect to the progress of anatomical science. Other facts have been stated by Dr. Nott, although not resting on an osteological basis. Thus he has ascertained that the muscles in the Negro have shorter bellies and longer tendons. The bulk of these researches have been confirmed by later inquirers into the myology of the Negro. Burmeister has told us that the ear of the Negro stands off to a greater distance from the head than that of the White race. That is another fact, in which the character of the inferior animals is indicated, though it may be distantly. M. Pruner Bey, in his *Memoirs* contributed to the Paris Society of Anthropology, has pointed out, I believe, a characteristic mark of the Negro dentition. Those persons who have thought to separate the human species from the inferior animals—and we at the present position of our science are not entitled to pronounce whether they have not acted on good ground—those persons have based their classificatory remarks on the dentition of the human species upon the fact that the alveoli (those sockets which contain the teeth in man) form a uniform semi-circular parabolic arch extending all round the upper jaw. They compare such structure with the admitted homologous structure of the gorilla and chimpanzee, in which the jaws, so to speak, are squared; in which the large sockets of the canine teeth have given to

the animal a most terrific expression, especially in the male, and they have proved that this is a broad and striking mark of distinction between man and the inferior animals. Nevertheless, the conscientious anthropologist will feel no regret when he learns, if he does not already know—and some of the members of this society who have read M. Pruner's memoir well know—that the alveoli in the Negro do not present the same round or parabolic curve as in the typical European, and that the curve of the Negro teeth is an ellipsis instead of a parabola. There are lower races of mankind than the Negro, as Dr. Hunt has pointed out; and to my knowledge there is an Australian skull in a public collection, in which the canines, both in the upper and lower jaw—both in the maxilla and the mandible—are so arranged as directly to square the jaws; and they depart from the common assumed type of human dentition to at least as great an extent as that which is presented by the young chimpanzee under four months of age. So far, then, with those anatomical facts which have occurred to my mind. With respect to the physiological facts I would feel most diffident in going over them. Some of our members have so ably expounded from their personal observations that which they deem to be the character of the Negro, and I place myself such full and entire credence in their observations, that I shall not attempt to repeat, on this occasion, what Mr. Winwood Reade and Mr. Fraser urged at the last meeting of the society. The fact that the Negro race under all circumstances has never been able to originate a civilisation of its own; the fact that it has never devised an alphabet or architecture of its own; that all the great civilisations of antiquity, of Egypt, Carthage, Rome, have passed unheeded, unregarded over it. These are facts, to which I attach the greatest possible value. With respect to the origin of the Negro race I will also pass over that. My friend, Mr. Charlesworth, alluded to some metaphysical distinctions as to the word species. He said that the Negro could not be deemed to be a distinct species from the White man, for that the Negro and the White produced a Mulatto, whose offspring was fertile. Now, in the first place, I deny the fertility of the offspring; and in the second place, I deny the validity of the argument. And, with respect to any definition of species, which may be attempted to be accepted by scientific men at this time—especially when our knowledge of species rests upon the vaguest of all possible bases, I will prefer to quote the words of my friend, Professor Owen, on the subject. Professor Owen has told us, that "Few naturalists now-a-days, in describing and proposing a name for what they call a new species, use the term in the same sense as zoologists of twenty or thirty years ago—namely, that of a new creation. The proposer of the new 'species' now merely means to state what he actually knows, namely, that the differences on which he founds the name 'species', are, so far as observed by him, constant, and not attributable to domestication, or any outward influence within his cognizance." I think that, taking such a definition as that, the Negro is a markedly distinct species to that of the European. As regards the "creation" of the Negro, I will prefer not to offer any hypothetical explanation of the

genesis of the Negro race, for I believe that some of our members might give to us what is the native tradition of the Africans themselves respecting their origin; a tradition I can assure you of far higher value in a zoological sense than that which has been offered by one who has been termed the father of British ethnologists, the late Dr. Prichard. I will pass over the question of the genesis of the Negro race, therefore, as one to which, in the present state of anthropology, we cannot make any reference whatever. I will also pass over these generalisations, which various zoologists have placed before us, as to the relative scale of the Negro race among the various species of the genus *homo*. Among these classifications, those of Bory de St. Vincent and Desmoulins are the most philosophical; but I will not here discuss them, as I trust they will be placed at full length on the notes which will be attached to our president's paper. And I will also pass over those classifications of the Negro race which seem to me of fully as equal value as that which assigns to the Negro and the White, to Malay and Australian, to the man of Tierra del Fuego and to the Tartar of Siberia, the same value as of one species. The Comanche Indians of Texas have given us quite as philosophical a theory, if not more so—quite as philosophical, though it may be rather a more rough classification. They put, as might naturally be expected, the red man himself first, and the white man next. Be it remembered that this is a classification of the races of man. The horse they put third, the squaw fourth, and the Negro fifth (laughter). Such a classification is based upon equally philosophical grounds as that which assumes the unity of the human race. And as I do not wish to introduce any political or hypothetical matter into this discussion, I will rest all my argument upon the pure facts. I will say that the pure Negro race has never produced—throughout all the many thousands of years in which civilised life has been connected with the race—it has never produced a poet, a historian, a general, a lawgiver, an orator, a mathematician, a naturalist, a mechanist, a traveller, a priest, a painter, an architect, a musician, a linguist, a physician, a philosopher, nor, I fear, any clever thinking men under any circumstances whatever. There seems to be a kind of mental or moral blight over the Negro race which is utterly inexplicable upon our present interpretations of mental or of psychological laws. Now, then, we come to the moral character of the Negro. Mr. Fraser and Mr. Winwood Reade have so adequately described this, that I, who have no personal experience in the matter, would willingly pass it over. No doubt to most of the fellows of the society the narrative of Herodotus is perfectly familiar. He is describing a race which some of his commentators have declared to be the Negro, and which showed their utter abnegation of that which we consider to be moral law. He describes the promiscuous concubinage of the Negroes throughout the whole nation, and the convenient arrangement by which, every three months, the children of the Negroes were adjudged to those who most resembled them. Such was the testimony of the old classicist. Such alike is the testimony of modern travellers on the banks of the Gaboon or on the Gold Coast. Then,

to continue our narrative of the facts, I think there has been proved to be a natural antipathy between the two races—the white and the Negro—a natural antipathy, which also, to a certain extent, bears out the hypothesis of distinct species. The same law by which the different species of wild animals refrain from breeding together in a savage state, prevails to a great extent in the operation of the relations between the White man and the Negro. No white man in America, and no white man, I believe in England, would willingly give his own child in marriage to a Negro; and I think that such relations as that serve to shew us also a moral law working in the case. The white woman—least of all in the Southern States of America—will not willingly mate with the Negro, nor the pure Negro with the white woman; unless in cases where the political relationship between the various states of society has been overset by means of a violent revolution. So far for the pure Negroes. I would not willingly waste your time with speaking of the mulattoes, especially as our president did not allude to them in his paper. I will not, therefore, allude to the state of the mulattoes in Hayti; nor to the fact that mulatto civilisation, now that it is erected in Hayti, has produced one of the most degraded states of social condition under which it is possible that two races which, from their close relationship, we could not have supposed to be so decidedly antagonistic, could live together. We have witnessed in Hayti revolutions by turns. In the first we saw the mulattoes massacring all the Negroes they could catch, and in the second the converse law was adopted. Geffard, a mulatto, is the present president of Hayti, and he has turned out Soulouqué, a Negro, who was also a barbarous and blood-loving potentate. But while speaking of these mulattoes and mixed breeds of Hayti, I would call special attention to the very vague notion which prevails, even among the masses of intelligent English society, as to the relations between the Mulattoes and the Negroes. I have often heard individuals, whom I know not to possess half or a quarter of Negro blood, pointed out as typical specimens of the African race, whatever that may be. I, as an Anthropologist, will not attempt to define that race, and I hope that in this discussion we shall exclude the Mulattoes entirely from our consideration. Roberts, the President of Liberia, was pointed out as a Negro, and he possesses one-eighth only of Negro blood. Nevertheless, the Negrophilists, as my friend Mr. Pusey calls them, have selected him as an example of what civilisation might produce if the Negro could be the subject of such civilisation. And so I will entirely pass over the Mulatto races. On the last occasion a few remarks were made by our Vice-President, Sir Charles Nicholson, respecting the distinction between the entozoa and epizoa of the various races, as deduced, that is to say, from the tape-worms and flukes, from the pediculi and other parasites which infest them. Now, after some examination of those authorities to which we attach a high value on that subject, especially to Quandt and Küchenmeister, I have such doubts on the subject, that I am fully inclined to recur to the opinions which I expressed at the first meeting of this Society, that our deductions on the subject

are not complete. I hope, however, that diligent and sound researches will be made by the Society. Then, again, if it were shown that the fluke, or tapeworm, or parasite of the Negro is distinct from those infesting the white man, such difference would not logically involve a difference of race. It might involve a difference of the geographic distributions of parasites. Thus, although the Russians on the eastern side of the Vistula, and the Europeans on the western side, belong to the same great subdivision of man, yet, strange to say, the parasites on either side of the Vistula, taking that river as the broad boundary, differ most markedly. This surely shows a geographic and not an anthropological division. Thus I have passed over those broad anatomical and physiological facts that occurred to me on reading and hearing Dr. Hunt's most valuable paper, a paper which, at no distant time, I trust will be freely circulated among the members of this Society. And since the duty has devolved upon me of opening the debate this evening, I would trust that the discussion will be strictly confined to the facts which anatomy and physiology have made patent before us—to facts which observation can ascertain; and that any moral, any ideal, any philanthropic, any supposititious, any extraditions notions may be rigorously excluded. I have no sympathy with those commentators upon any observations which Dr. Hunt or myself may have made, who have assigned to them a value apart from their anatomical or purely scientific nature. To such objectors I would say that the anatomist who is willing to declare the facts which research has placed before him, does not pay the slightest attention to any extrinsic considerations whatever. Men who are willing to declare the truth as it is manifested in the facts which science has placed before us—as it is manifested by the general laws which science has placed at our disposal—

Men of long enduring hopes,
And careless what the hour may bring,

will not be prepared to enter into any political discussions, but will be prepared to meet their adversaries in the Society upon the purely anatomical bearings of the question of the relations which the Negro bears to the white or other races of men.

Mr. PUSEY. I quite agree with our Secretary in thinking that the fertility of mixed breeds has no bearing on species; and I nearly agree with our Secretary in thinking that the Negro race has never produced any very great men. There appears, however, one exception—Toussaint l'Ouverture. I don't know his history so well as I might, but I think that subsequent investigation will only confirm this statement. There can be no doubt he is a pure Negro, for by the French law all Mulattoes were free, and Toussaint was a slave.

The Rev. J. DINGLE* said: I wish to enter my earnest protest against the manner in which the author of the paper under discussion has handled his subject. In a scientific point of view I can conceive

* These remarks are printed from Mr. Dingle's notes.

nothing more faulty. We have been asked to look upon the Negro race as of a species distinct from the rest of mankind, but scarcely any attempt has been made to show that this is in accordance with any principle of subdivision that has hitherto been recognised among scientific men, nor has the author laid down any system of his own which would justify such an admission. Science is likely to be little helped by such arbitrary and hap-hazard propositions as this, and we might have looked for more impartiality, and a deeper sense of responsibility, in propounding doctrines which aim to cut off a large part of the human family from the common rights of humanity, and have become stale in the service of avarice and tyranny, having been in use now for a century or more to justify the most outrageous oppression, and to palliate the most disgusting cruelty. I have been deeply grieved to witness the resuscitation of theories which have been so completely exploded, and which even the blacks themselves have long since learnt to treat with contempt. The lecturer promised to rely upon facts. How far he has redeemed that promise I leave every hearer of his paper to judge. A large part of it unquestionably consists of the mere unsupported opinions of other individuals, and these in positions from which, at all times, we have had abundant proofs of ignorance and prejudice; and as to his facts, by bringing forward only those on one side, the author has acted as special pleader, rather than as a faithful investigator of truth. I need not do more than advert to the question of scientific classification. It is well known that fertility among each other has been very generally recognised as the mark by which the members of the same species may be known. There are very strong *a priori* reasons in its favour, and Dr. Prichard has elaborately shown that it is the true mark, and that all the different races of mankind answer to it. I may leave the matter, therefore, upon his testimony, only expressing my surprise that as the statement, that God "has made of one blood all nations of men for to dwell on all the face of the earth," rests, as a scientific principle, on such high authority, the lecturer should have spoken so slightly of the expression of it. The lecturer has mentioned some individual who gives it as the result of his observation that hybrids between the blacks and other races are not continuously prolific; Dr. Prichard, taking a broader and more philosophic grasp of his subject, gives a mass of statistics to prove the contrary, and even mentions a peculiar race of men in South America (the Cafusos) which has been established by a cross between the American and African races. I go on to the mention of some leading and important facts which directly contravene the lecturer's position as to the incapacity of the Negro for benefiting from his contact with Europeans. Allusion has been aptly made by Mr. Pusey to the case of Toussaint l'Ouverture; it is, however, by no means sufficient for us to advert only to his particular case. At the outbreak of the French revolution events took place in St. Domingo which were enough to subvert all the lecturer's positions as to the inferiority of the blacks. The development of energy and talent among them was as decided as it was in any other country in that remarkable era. Toussaint, Christophe,

and Dessalines were all thorough-bred Negroes—[Mr. CARTER BLAKE: Certainly neither Christophe nor Dessalines; probably not Toussaint l'Ouverture.]—and they were unquestionably great men—men who had raised themselves from the most debased position by their intellectual power. Rank and its responsibilities had, before the revolution, been conferred on them under the auspices of the French and Spaniards, and in the lofty eminence to which they afterwards attained, two of them showed themselves able to appreciate the highest influences of morality and religion. I do not say they obeyed those principles in their own persons. We all know more of morality than we practise, and our character, as moral and intellectual agents, does not rest upon our always obeying the principles of reason and morality, but upon our capacity for understanding them, and recognising their obligations. No one can read the code and proclamations of Henri Christophe without acknowledging that he was a sovereign who recognised the value of wise and good laws and principles of government. I do not go into the question as to whether these acts of state were actually framed by men of Negro blood, though there is testimony to the fact, and doubts have probably been raised without foundation. It is sufficient for our argument that they were the adopted measures of the Negro sovereign, who would not have accepted the accessories of civilisation if he had not recognised their value. We must remember, also, that the community over which he ruled was, to a great extent, a Negro community, and that many of his ministers were of that race. Whatever may be the ultimate result of this experiment in Negro independence, enough has already been done to show that the Negroes are not incapable of civilisation, and we know that the causes which operate against them, especially the unavoidable establishment of a military despotism, have tended to the ruin of the most civilised states. The kind of intercourse which the Negroes had with Europeans in Africa sufficiently account for the little benefit which, till lately, they had derived from their contact with European civilisation. We learn from Mungo Park what strong prejudices had been generally excited among the Negroes against the Whites by what they had seen of them. Never witnessing among them any acts of Divine worship, they supposed that they were destitute of religion, and, observing their insatiable eagerness to possess slaves, they thought that they were cannibals. Few men have had better opportunities than Park of being acquainted with the Negroes, and his statements are in direct contravention of the lecturer's representations. The latter would have us believe that they were utterly given over to lying and lust; Park shows us, by a touching anecdote, that they have the highest appreciation of truth, and that, so far from being given over to indiscriminate lust, they were remarkable for conjugal fidelity. In this latter respect what he says of the Moors is in strong contrast with his account of the Negroes. He tells us, too, that the Negroes were eager to secure the intellectual advancement of their children; he denies that they should be considered an idle race when due allowance is made for the climate in

which they live; he shows that care was taken for the general education of the people in certain important arts of life, especially weaving and agriculture, and that they had skilled artisans in the manufacture of iron and leather. Apart from the vices of their rulers, and the evils introduced by their contact with Europeans, they were, as barbarians, more than usually disposed to be a contented and happy people, needing only the illumination of a purer faith, and the protection of a powerful and beneficent government. That their vices have been more prominent than their virtues, may readily be admitted; it is no more than has been true of the barbarous aborigines of every country under the sun. Prichard assures us, that the aborigines of Europe were in a more degraded state than the Negroes now are, and that they emerged more slowly from their pristine barbarism than many of the native African nations have done; and with reference to the superior influence of Mohammedans over that of Europeans, to which Mr. Fraser has alluded, I may mention that Prichard agrees with Park in deploring the debasing tendency of that kind of intercourse which the Africans have had with Europeans, and the utter ignorance in which they had generally been left, not only of the teaching of Christianity, but even of the existence of any religion at all among the Europeans. Where the Negroes have fairly come in contact with civilisation, they have shown themselves capable of great improvement. Those whom we sometimes meet in our own streets are not savages. The slaves in the Southern States of America are acknowledged to have visibly advanced in civilisation, and their tendency to rise to the level of other men is sufficiently attested by the fact that the slave-holders, from jealousy of it, do, as a rule, prevent them when young from receiving any instruction. I state this upon the testimony of Mr. Russell, the correspondent of the *Times*, who putting in vain the most elementary questions in religion to some children of twelve or fourteen years of age, was told by the overseer that it was not thought advisable to instruct them in such matters. The idea that Negroes are quick as children, but grow more stupid when they arrive at adult age (an idea very difficult to verify) is, I am apt to think, a mistake arising, like many others on this subject, from inadequate knowledge of what is true of men in general. Something of the same kind would probably be found true of men of every race. The indications of talent among young people are common, while in after life very few raise themselves above the average of their fellows. Under all circumstances, the vivacity of children is unrepressed, but among barbarians, and especially among slaves, there are not the motives in riper years to urge a man forward in life. I am informed by a lady, who belonged to an old Jamaica family, and who spent eleven years of her life there in the times of slavery, that it was usual to give the slaves the chance of emancipating themselves, by allotting them ground in the interior of the country, and giving them the Saturday to cultivate it on their own account. In this way many obtained their freedom. She knew slaves who, from their superior attainments, were valued by their masters at ten times the price allowed by the government at the time of

emancipation as the average value of slaves. From her intercourse with them, she had received a favourable idea of their capacity, especially for the cultivation of mechanical arts, and she had met in society a Negro gentleman from Hayti whom she describes as a person of very polished manners. I was much pained by the slighting way in which the lecturer referred to the efforts of the philanthropists, as he called them, in behalf of the Africans, especially as it was accompanied by the entire suppression of facts which really had a most important bearing on his subject. He had undertaken to help us to form a judgment as to how far the Negro might possibly benefit by contact with European civilisation, and all he could tell us of the result of the efforts that have been made on their behalf on the West Coast of Africa (the only place where the experiment has been earnestly tried) was, that the Negroes there were a lying set, or some expression of that sort. This is about as fair a judgment as if a countryman, who had found it hard to avoid being robbed in London, were to report in the country that the Londoners were all rogues. If, sir, we are to be guided by facts, in this matter, the following ought to be of some weight with us. There has been an attempt made at Sierra Leone to form the slaves released from the slave ships into a Christian community upon the European model, and the result of this experiment of about half a century, upon the vilest refuse of Africa is, that there is a respectable Christian community there. A tract of country of about three hundred square miles has been laid out, as in England, in parishes, throughout which there are numerous devout congregations well instructed in the Christian faith, and remarkable for sober, orderly, and Christian conduct. In a population of nearly fifty thousand, there are in connection with one religious body upwards of seven thousand attendants on divine service, four thousand communicants, twelve ordained native clergymen, and fourteen native lay agents; more than one quarter of the whole population is at school, a larger proportion, perhaps, than in any other country in the world, and only about six thousand remain Pagans and Mohammedans, the rest being divided pretty equally between the Methodists and the Church. Dr. Livingstone, in a letter to Sir R. Murchison, expresses in the highest terms his admiration of the result of the experiment, and affirms that the Sabbath is as well observed as it is any where in Scotland. Moreover, the people collected at Sierra Leone have become desirous of making their countrymen in the interior partakers of the same benefits with themselves, and, in this way, a mission was undertaken to the Yoruba country, among other places, in 1845. The people were so well disposed to receive Christianity, that already there is a church with upwards of one thousand communicants, with five native clergymen, many other native agents, and a large number of scholars. I could bring abundant testimonies to the soundness of the work which has been thus done for Africa; and surely, sir, it is better to have been instrumental in forwarding this great practical result, than to have been striving to revive the absurd and exploded theories, under the shelter

of which a mass of crime has been perpetrated which has filled the world with disgust.

Mr. T. BENDYSHE, M.A.,* said: I should like to make a few remarks upon Dr. Hunt's able and interesting paper, with the conclusions of which I cannot altogether agree. And first, it does not seem to me so clearly made out, as it does to many, that the Negro differs in what is called species from the European. For example, the African crania in the Chatham Museum are in number 128, and Dr. Williamson in his remarks upon them, after dividing all the skulls into four classes, goes on to say: "The characters stated as marking the four classes of skulls, and the division into races, are those usually found; but there are no characters which are universally present in every race. For example, in the Negro race the Mandingoes' skulls are well formed and approach to the European, and show few of the Negro characters: on the other hand, the Kroomen display these characters in their exaggerated form." And again, "In general the superior maxillary bone of the Negro does not project, nor is the skull compressed laterally; this occurs only in the exaggerated specimens of the Negro race, and out of 128 African crania, these strongly marked peculiarities are only found in two instances." He asserts, also, that the situation of the foramen magnum, is the same in Negro as in European skulls, and that the lower jaw is in general neither thicker nor stronger, and the angle the same as in Europeans. There are seven skeletons also in the museum, one of a Negro, of which he says, "The bones of the pelvis, and those of the skeleton generally, do not differ in the slightest degree, with regard to form or texture, from the English or Greek." And "the points of the fingers in the Negro, Hottentot, as also in the two Greek and English male skeletons, reach as low as the middle of the femur." Some of the differences, therefore, which have been relied on as specific, do not seem constant enough to compel us to come to that conclusion. Some attention, too, must be paid to the statements made by qualified observers, that both the European and the Negro in the Southern States of America, show signs of an alteration in their physical type, and both in the direction of the Red Indian type, or as it is said, that of the Iroquois. Now, if both the European and the Negro are so much acted upon by the climate and other local causes, that there is some prospect of their eventually being distinguished as a race with many of the characteristic features of the Red Indian, it is but fair to assume that they must have a common specific basis from which to start. For if not, then we must admit that climate is so strong an influence, as to be able to destroy what were originally specific differences; in which case it cannot be positively asserted that two races occupying very different climates, as the European and the Negro, are not of the same origin, or at least species. M. Bouté, in a paper read at the meetings of the French Anthropological Society, has tried to throw ridicule on this statement, by saying that it is reported that the Negro is observed to get more like the European, and the Euro-

* These remarks are printed from Mr. Bendyshe's notes.

pean like the Red Indian, and this is quite incredible, for he asks how the European type, which has such a marvellous power over the Negro, is influenced by such an inferior type as the Red Man? But the answer is very easy. Both are influenced, not by the Red Man, but by the climatic action which has made the Red Man what he is; and as both approach the Red Man, they will, of course, more and more resemble each other, and this it is which has really taken place. Indeed, I am inclined to think these apparently contradictory statements are a confirmation of the assertion, because they are made by independent observers and can only be explained in the way I have suggested. I have also a question to ask our learned President, to which I do not expect to get a satisfactory answer; but which, I think, demands some attempt at explanation, before we can be called upon to admit this diversity of species between ourselves and a being we all agree to recognise as man. Let us suppose that somewhere in the interior of Africa the intermediate beings should be found, which, according to the Darwinian theory must once have existed, if they do not still, between the highest ape and the lowest kind of man we are at present acquainted with,—I should be glad to know how it would become an enterprising member of this Society to act under the influence of such a discovery. At present, however much we may differ theoretically, we know practically what to do. Mr. Reade shoots and presents us with the skin of a Gorilla—and will no doubt tell us shortly the particulars of his exploit. Dr. Hunt presents us with the skull of a Negro: our consciences are satisfied, and we don't ask how he became possessed of it. But when brought face to face with the intermediate creature, how should we act? How should we distinguish between the animal we ought to shoot with triumph, and whose skin should be sent home and stuffed, and the man whose skull and skeleton would be equally interesting: but the manner of whose decease we should not care to know. Are we prepared to lay down any practical rule by which we could easily distinguish between the most anthropoid ape and the most pithecoïd man we may one day be acquainted with? Is it the test of language? That I believe has been given up. Is it that of mind or instinct? That distinction is now thought to be equally untenable. I am only acquainted with one test myself, with one faculty which appears to exist in the very lowest specimens of humanity, and which is wanting, not only in the apes, but in all animals whatsoever,—I mean the faculty of representing, or at least being able to comprehend the representation of natural objects when drawn upon a plane surface; the art, in fact, of drawing. That no race of men have hitherto been found ignorant of some faculty of drawing, or at all events understanding drawings, is, I think, undoubted. The Veddahs, who are asserted by Sir E. Tennant to be destitute of language, by his account trade by means of drawings. The Esquimaux understand and can correct the outline of a coast. But I know of no animal who has ever been supposed capable of comprehending the meaning of any representation at all. But if this constitutes a specific difference, then the Negro cannot be shut out from ourselves. But however this may be, until the question I have

put, namely, where we should draw the line, be solved, I do not think we can be sure that we have yet hit upon the true specific differences between ourselves and other races of men. Such differences may exist; but we ought not to assert that they do, until we can demonstrate what they are. Nor can I agree with Dr. Hunt in his position, that the Negro ought to be subordinated to the European, or that he can only be humanised and civilised by the European. The Negro, he said, has had the benefit of all the ancient civilisations, and had derived no good from them, or no permanent improvement. As to the latter statement, I will consider it in two ways: first, as being correct, and secondly, as being asserted without sufficient proof, and in contradiction to recent investigations. Assuming, then, that the Negro came in contact with the ancient civilisations and derived no benefit from them, there can be no doubt that it was as a slave that he felt their influence, and it seems to me singular to argue that because previous civilisations treated the Negro as a slave without effect, therefore the present civilisation is entitled to treat him as a being subordinated to them by nature. I think it would be quite as fair to say that it was precisely because he only knew the European as a slaveholder that the Negro has derived no permanent benefit from him. But even admitting that the Negro may present a more favourable side of his character to those who observe him under the influence of European slavery, I cannot allow that to be a reason why he should necessarily be considered a fair subject for such an experiment. I do not mean to rest my argument upon any moral grounds. I am of opinion that true expediency and true morality must ultimately be the same; but as it is more easy to pronounce an opinion on what is expedient than on what is abstractedly and morally right, I shall confine myself to the former considerations alone. With respect, then, to the effects of slavery there are two parties to be considered: the master and his slave. And even if a slight improvement in his daily life may be traced in the Negro, that cannot counterbalance the deadly influence that the dominion over slaves has always had upon every variety of man. However superior the European may be to the Negro, he certainly is infinitely superior still to the domesticated animals. Yet I need not remind you that though man in the abstract may be said to exercise absolute dominion over the animal, yet as an individual it is found impossible to trust him with absolute power. Nor does ill-treatment of animals prevail among the lowest ranks alone. It is only recently that we have all been shocked by the terrible accounts of the practices carried on by men of a liberal profession and of high position in a neighbouring country. Indeed, the animal may be said scarcely now to be in the position of a slave; for his rights are matter of legislation, and though his life may be in the hands of his master, the law provides for him an immunity from torture, and regulates the amount of labour to be demanded from him. But there is another and a large class of beings who are in some respects as inferior to man as Negroes are to Europeans. I speak of women. Woman is shorter in stature and far inferior in strength. Her faculties are more precocious and decay

sooner, nor do they ever arrive at the same extension of development. From the age of twenty to forty, and in a normal state, she is in process of child-bearing; so that during the time when a man is perfecting his education and taking his place in the world, she is principally subject to functional disorder. It would be well for many women if they were allowed to possess no property beyond a sufficient subsistence; and there are many in this country who would rather be the third, or fourth, or fifth wife of a man of large fortune than never be married at all. Accordingly, for many ages the lot of woman has been slavery; and whilst a slave she made as little progress as the Negro, her fellow slave. Nor if might makes right can she complain. But do I then advocate the deprivation of women's rights, or of her property, or the institution of polygamy? I desire nothing of the kind: but not because I feel myself bound to admit any positive rights vested in woman against her superior, man; but simply because experience shows that, in proportion as man abdicates the rights which force gives him, so he improves himself. No one here will probably deny that where woman is most free man is most civilised; and if the slavery of woman has injured the nations who indulged in it, not less has the slavery of the Negro, or of his fellow man. For if the ancient civilisations cannot be shown to have benefited the Negro, it is not difficult to prove that the practice of slavery was highly prejudicial to every ancient civilisation. And whatever the future may have in store, there is as yet no recorded instance of a country destitute of peasantry, and living on the labour of slaves, who have been able to resist in the long run the persistent attacks of a nation of freemen. But whilst I cannot believe that slavery is always to be the lot of the Negro, I do not think we are without reasonable grounds for forming an opinion as to the probable agents and means of civilisation, or improvement of that race. It is not the Bacon or the Newton who are always the best exponents of their own discoveries. That task is better adapted to the middle-class of minds, who have the faculty of popularising and diffusing what, perhaps, they themselves imperfectly comprehend; and in ordinary education the more advanced pupils are frequently the best conductors of knowledge to the young beginners. So we ought not to be surprised to find that the Negro seems more likely to be slowly elevated in the scale by the insensible influence of those who approximate more nearly than the white European races to his own appearance and condition. That this is so I will presently demonstrate; but just now I will give some positive facts for coming to the same conclusion from another point of view. I never attempted to dispute that the Negro has a closer resemblance to the ape than the European; and hence, I should be inclined to suppose, that those races to whom familiarity with the ape is less unpleasant would be the most likely to understand and sympathise with, and therefore to exercise beneficial influence on the Negro. Now there can be little doubt that the dark races of Europe have been more inclined to make a playmate of the monkey than the white. To say that this is owing, partly to our climate, which, perhaps, does not permit the animal to exist so easily, is not a sufficient

answer, though it may be an additional reason. But it is generally the dark Italian, and not the Englishman, who teaches the monkey his tricks, and is as friendly with him as a dog. And if it be true, as there seems good reason to suppose, that the ape of Gibraltar is not indigenous but an importation, we have an additional proof that proximity of geographical area, combined with deeper colour, causes greater sympathy between man and his nearest resemblance; and, accordingly, we find that the Portuguese and the Spaniard have a much smaller disinclination to mix with the dark races than ourselves. Hence their influence must necessarily be much greater. And though in many of their settlements the Portuguese may have degenerated, yet probably had they not preceded us, and made us as it were intelligible, our success, if we have had any, in the Negro, might have been less than it is. I said, in another part of this paper, that I thought the assertion that all the ancient civilisations had produced no effect upon the Negro might be somewhat difficult to prove. The Egyptian civilisation, for example, has so long passed away, that we can only laboriously reconstruct some faint and probably fallacious idea of it. That we ourselves should have been, however, exactly what we are, if the banks of the Nile had never displayed that civilisation, is very doubtful. But it would be very difficult to point out in what consist its effects upon modern Europe. Now if this be so, if this civilisation is so ancient, that what was worth preserving has become our unconscious inheritance, we can scarcely expect to find its traces existing in the Negro. But because we cannot point them out is scarce a sufficient reason, any more than it is with ourselves, for saying that nothing was effected thereby. Vol. iv, p. 426, Dr. Barth says distinctly that the Negroes must have received in more ancient times several institutions from the Egyptians, with whom, says he "I have no doubt they maintained an intercourse by means of the energetic inhabitants of Augila from a relatively ancient period;" and he instances the great care which the Songhay bestowed upon their dead. "The attention thus bestowed upon the dead seems not to have been in consequence of the introduction of Islam, but appears rather to have been traditionally handed down from the remotest antiquity." The Egyptians, therefore, do not seem to have been so powerless over the Negro as has been asserted; and in modern times, again, the religion which Egypt professes, has undoubtedly brought with it in its progress to western Africa a very considerable amount of civilisation, of which the Negro has shown himself by no means incapable of taking advantage. It has abolished human sacrifices and many gross superstitions, and in all places established some kind of learning and a literature. "Mohammedanism alone in these countries," says Dr. Barth, "maintains any sort of government. It alone has succeeded in giving to distant regions a certain bond of unity, and in making the land more accessible to trade and intercourse." It is in my opinion only by following the channel which Islamism has made that any real benefit can be done to the Negro. Through Egypt, and by means of Egypt, the real influence of Europe must be brought to bear. The efforts of missionaries on the western coast have produced

literally no effect whatever. The tide of Mohammedanism is still sweeping on towards beyond the equator; but from this we ought to learn the lesson how to bring in time something better. And if we are but content to follow in the footsteps of the old and the modern populations of Egypt, we may yet be able to engraft upon the savages of central Africa, and upon the Negro in his own land, and unremoved from his own soil, all the advantages he is capable of receiving.

MR. WINWOOD READE: Such experience as I have had in Pagan and Mohammedan Africa leads me to endorse every sentiment that Mr. Bendyshe has expressed in his paper; and, in fact, I have put the very same ones into print in a work that will soon be published. With respect to intermediate tribes in Equatorial Africa, I have no doubt that the Negroes there are comparative strangers, considered in the geological ages of the world. Though I never saw them, I heard rumours of a race of people which seemed to answer what the Hottentots are among the Caffres, in Equatorial Africa; and I think it very possible that, when the caverns and mountains can be searched, intermediate tribes will be discovered between the gorilla and man. With respect to the Mohammedan known in Africa, I have devoted a great portion of my work to proving that Christians cannot civilise Negroes, and that the Mohammedans can, and are doing so. They are making thousands and thousands of converts, as Mr. Fraser, I have no doubt, can inform you, and such civilisation as the Negroes possess is owing entirely to Mohammedan influence. It is true that the Pagan Negroes have traces of civilisation among them, as Mr. Bendyshe supposes. For instance, in the Congo, where no Arabs have yet arrived, they have the practice of preparing mummies, as was done in Egypt, and also other traces of civilisation. With respect to Mr. Dingle's remarks, the Negroes of whom Mr. Park spoke so highly were Mohammedans.

MR. DINGLE: Certainly not.

MR. READE: They were, at least, the Mandingoes and Foulahs.

MR. DINGLE: Mungo Park makes a distinction between the Mohammedans and the Pagans, and speaks especially of Pagans asking education from the Mohammedans.

MR. READE: According to Mohammedan laws, Mohammedan priests would not instruct Negroes if they were Pagans.

MR. DINGLE: He states it as a fact. Of course, the tendency would be to make them Mohammedans, but, nevertheless, they would be children of Pagans. Of Parker, especially, the man he remained with so long, he spoke expressly of his schoolmaster.

MR. READE: I have no doubt they were children of Pagans; but, of course, they must have been Mohammedans to receive instructions from the Mohammedans.

MR. DINGLE: Children are not one thing or another.

MR. READE: I have seen fifty of these schools in Mohammedan Africa, and many children of Pagans that have been taken from their parents and educated by the Marabouts, or Mohammedan priests. They are taught to write and read Arabic, though certainly they are not taught the Koran, and to teach them the Koran is the chief object of

Mohammedan education. With respect to a custom which Mr. Dingle cited as a proof of high civilisation—

Mr. DINGLE: No; I never cited anything as a proof of high civilisation.

Mr. READE: The custom of a Negro refusing to marry a Negress if she is not a virgin I will explain. Virginity in Africa, as in other countries, is considered a marketable commodity. When a man marries, a new goatskin, or piece of white cloth, is put on the marriage bed, and if the signs of virginity cannot be produced, the husband receives back the money paid for his wife. That, I am afraid, we cannot look upon as a sign of high civilisation.

Mr. DINGLE: I did not say "high."

Mr. READE: Respecting the precocity of Negro children, on that there can be no doubt. Mrs. Walker, the wife of the Rev. William Walker, an American missionary, who was ten years in Africa teaching children, and had twelve years' experience in teaching in America, told me that the Negro children were more precocious than the American children, but had not such retentive memories, and that, generally speaking, they came to a state of *in statu quo* about sixteen, and after that slowly forgot all they had learnt.

Mr. DINGLE: I could give you plenty of such instances among our own countrymen.

Mr. READE: I am only speaking of Negroes. For myself, I have learnt something since I was sixteen. With respect to the civilisation of the Negroes of Sierra Leone, I have been there, and have had opportunities of seeing something of the native character. I got there on a Sunday, and had a Negro to carry my luggage to the house where I was going to stay. When I got there I offered him sixpence, which I understood was the proper sum to pay. He said that I must give him a shilling, double the price, because he was breaking the Sabbath. In the afternoon, walking about the town, I saw a Negro woman, with a very pretty child. I said, "That is a very pretty child; is it your daughter?" "Yes," she said, "that my proper daughter. That am very pretty child. Would you like to buy him?" I said, "What?" She said, "Give me plenty of rum and cloth, and I sell you my child." So I thought to myself, this is some woman just come from the interior of Africa, who has never received Christian instruction; but, when the church bell rang, she stopped and said, "You no hear church bell? Stop, I'll go to church; now, after church we palava." With respect to a great number of native preachers in Sierra Leone, the most eminent of them had been in a chain gang. The doctrines they expounded were curious; one specimen I will give you. The native preacher wished to explain to his congregation the origin of the white man. He said to them, "My bredren, you see a white man; he bad too much, he wicked too much. You wonder how God let such a man as that come into the world. Now, I tell you. A berry long time ago, Adam and Eve lived in one beautiful garden; plantens there sweet, potatoes, plum wine,—ah, ah, too much. They had two sons—one Cain, the udder Abel. Cain kill him brudder, Abel. So God He came out from de sky, and says, 'Cain!' Cain go and hide himself in de bush; so

God says, 'Cain, you tink I no see you, you bush nigger! Come here, Cain!' So Cain came out, and said, 'Yes, Massa; I here. What do Massa want?' God said, 'Where your brudder Abel?' Then Cain turned white all over. Him de first white man, bredren." With respect to the Negroes of Sierra Leone having the same rights and privileges as the white man: the Negro certainly is put upon the juries. In fact, there are more Negroes than white men on the juries, generally in the proportion of about nine or ten Negroes out of the twelve. The consequence is, that whenever a white man brings an action against a black man, the white man always loses, added to which there are instances on record to show that black jurymen are in the habit of getting drunk in the jury-box, and sometimes of insulting the judge, and getting committed. I will just give you one instance, to show the kind of *animus* that prevails between the white man and a black servant who insulted him. The white man said, "Get out of my yard;" the black man, "See you damned first." The white man took him by the shoulders, as we should do in England if we were insulted on our own premises, and kicked him out. The black man brought an action; the white man was fined £50. I have nothing to say against the Wesleyan missionaries in Sierra Leone; they are a very good kind of men. They do not always speak good English; but I believe them to be pious, hard-working people. They are liable to be deceived by the West African Negroes, who are the most consummate hypocrites and the greatest liars in the world. But I must say, in favour of the missionaries, that times are very much altered since Major Laing wrote, when he said, "There are three missionaries in Sierra Leone, one of whom is living with a Negro woman, another is in the habit of getting drunk in the streets; and the third has been tried for the murder of a little boy, whom he had flogged to death."

MR. PLINY MILES: It appears to me as though the arguments to-night have all been on one side; and, partly on that ground, and partly because the other side wants defending, I think I shall take the other side. The statements made in reference to the paper which was read at the former meeting, are, I have no doubt correct. I did not hear it, but it has been intimated to me that, according to the author of that paper, the Negro comes nearer to the Gorilla or Ape than the white man; in other words, he is nearer a brute than a human being. (*No, no.*) Something, at least, of that sort, was the impression produced upon the meeting. Now, I shall endeavour to make it appear that such positively is the case, and will begin *de novo*, to endeavour to prove it. I shall discuss the question physiologically, not omitting facts relating to philanthropy, politics, or religion. I have no doubt that you will agree with me when I call attention to the fact that when we visit the Zoological Gardens, or similar collections, and look at the different animals, of apes, baboons, and monkeys, we feel a great degree of repulsion in consequence of the certain amount of resemblance that they bear to the human race, and yet they are evidently beasts. Now, sir, is it not evident that if we look upon the ape as a beast and not a human being, if it were not created somewhat in the likeness of a human being, we should feel no more re-

pugnance towards it than we do towards a greyhound. It is evident to me that the Almighty, in creating him in the likeness of a human being, has done so in order that we might not think him to be one, and he has given him one of the worst places in the world to live in—the tropics. It must be evident that the Negro is an inferior race, for no one but an inferior race would live in the worst part of the world. There are other facts to show that the Negro approximates to animals. The best cavalry soldiers in the army of Africa in ancient times, were the Numidians—true Africans and Negroes. They actually rode bare back, and in consequence of the aid given by that force, Hannibal was able to conquer Rome. Now, I think it is readily conceivable that the Negro must be somewhat nearer the animal than the man, or he could not make such good use of an animal such as that, and ride without saddle or bridle; and I think that the inference we must draw from my first statement, that the Almighty has given the Negro a profound idea of religion and reverence, in order to repel us from them by showing us that they have a certain amount of resemblance to ourselves. In fact, the argument has proved too much. It proves that the Negro is something above an animal, that he has a high appreciation, not only for character, but for persons that are superior to himself. In the United States of America we get a striking proof that he is not only inferior to the white man, but deserves to be so. He is very humble and submissive. The white man shows the extraordinary talent of being a very great tyrant. We have seen a great many accounts of the white man being very abusive; and the Negro race, with one or two exceptions—such as the case of a white man who got shipwrecked on the coast of Africa, on which occasion the Negroes exhibited something of the same talent—shows a different disposition. The white man, therefore, must be a superior man, because he has exhibited that peculiar kind of ability that tyrannises over his fellows. Now, I shall consider that you will take for granted what I state to-night, without troubling me to bring up any skulls; I shall propound all my facts *ex cathedra*. I was going to give you an example of a Negro, whose name I very much regret to have forgotten; but those who travelled in the Southern States of America fourteen or fifteen years ago, must have heard of him. He was an eminent engineer who built all the covered bridges that crossed the streams in the States of Alabama and Georgia, and they are certainly finished specimens of workmanship. In fact, his master made so much of him, that he liked very well to forfeit all his earnings. Now I think that that fact proves that the Negro is incapable of any great degree of improvement. Another fact I remember with reference to the city of New Orleans. There are three distinct races there, and when negroes, whether free or bond, are taken from one of the municipalities—from the English to the French, or the French to the English—only knowing the language they have been brought up in, they actually pick up the other language in six weeks. Of course they do not talk it grammatically; but I think that, having that extraordinary facility of acquiring a language, they must be considered to be a degraded race. I have another argument which will

affect us as Englishmen, for I claim to be a good Englishman, though I happen to have been born on the other side of the Atlantic. You have all heard that, sometime ago, a distinguished general, named, I think, Julius Cæsar, once came to this country. You will not dispute it that they were real Britons who lived here, wherever Julius Cæsar crossed the Thames, whether he did so at Kew or at Hammersmith. Now, the ground I take is, that the Englishman, *per se*, must be an inferior race of being, and it can be proved most clearly. Julius Cæsar brought a pretty large army with him, and undoubtedly there were some females in it as well as males. The successors of that army lived in the island some 400 years. I know this as a matter of course, because, my own name being Miles, I must have descended from them, and as *miles* meant one of a cohort, you must consider me to be one of a thousand also. One would think that that cross would improve the race of Englishmen, and we are told by our secretary that we are bound in the discussion of the ethnological, physiological, and human characteristics of the Negro, to put on one side all the crosses or mulattoes. Well, grant that for the time being. Now I think it must be clear that the original English race must have been a remarkably poor one that required another cross in a period of four hundred or five hundred years, when the Picts and Scots came in, and another when the Saxons came in. Afterwards we had a wicked Frenchman, usually termed a Norman. He brought over some of the best blood in England. Well, this sort of business continued, the English continued to deteriorate, and new blood had to be brought over at various times; so that I think I have proved, not only that an Englishman is an inferior character *per se*, but that at the present day he is absolutely nowhere.

MR. BURKE: It appears to me that we might go on discussing this question till doomsday, arriving at no result, if we follow it out in the manner in which we have done this evening. I have not had the advantage of hearing Dr. Hunt's lecture, and consequently I can only speak in reference to some remarks made this evening. I cannot precisely agree with my friend Mr. Blake. I do not disagree with him so much in his statements as in the use he has made of them. When we are talking of anatomy and physiology and so on, there are two questions: first, as to the accuracy of the facts; and then a still more important one, as to the use made of those facts. As a general rule, I have little or nothing to object to the facts, but I have every thing to object to the inferences. It is one thing to bring a series of minute observations in reference to some particular part of the skull, to some bone, or something of that kind, and it is quite another thing to assume the importance of that difference. It is one thing to say that there is a difference of an inch in a certain bone, or in a certain angle, and it is another thing to say that that is of such extreme importance as to distinguish one animal from another. I believe that the only importance that can be attached to anatomy, is the fact that it is sometimes capable of being supported physiologically, I believe the only importance that is attached to a piece of mechanism, is that that mechanism is found to perform similar functions, and that unless

you have an idea of the use of the mechanism, you have no right to speak of its importance, or its non-importance. The anatomist who has taken pains to draw these minute distinctions and differences between certain bones and certain parts of the brain, and so on, is working upon materials of which he does not know the value. Anatomists do not profess to be able to tell you the value of any particular part of the brain, and yet they commit the egregious *non sequitur* of saying that this part is important, though they professedly do not know what its functions are at all. There is the absurdity. I do not say they are bad observers, but I say they are very bad reasoners. That is the complaint I have to make. It is the greatest absurdity to be talking of anatomy where you are not able to talk of physiology. It is a pure absurdity to be talking of the structure of the skull when you do not know the value of the brains that are in it. If I want to know the value of a piece of furniture, a musical instrument say, I like to hear it played. Do you think I guide myself simply by the look of the mahogany, or its peculiar shape? So, if I want to know the superiority between one portion of mankind and another, I must look at the man in action. You tell me that the Negro has inferior manifestations. Well, on that ground I can reason with you. But the anatomist is not worthy of the snap of the fingers on a question of that sort. He is a man who is working in a particular channel, but he does not stop to consider whether his means are adequate. Now, I say that the philosopher, if he wants to solve a question, will look all around it, and he will not be such a fool as to talk away on something that will give no result, when, perhaps, by directing his attention still further, he may see another mode of solving a difficulty. That is the fault of the anatomist. It is the old story, each man walks in his particular channel, whatever that may be; but the reasoner does not do it. He looks all around him, and thus he draws his inferences, while the anatomist keeps himself to his own province. This is all very well, but when he becomes a physiologist that is another affair. Physiology here is the observance of men in action—the observance of his intellect and character, and social relations,—that is the physiology of the brain. You do good a step further if you go with the phrenologist,—assuming that he is going right—and find out that particular functions are performed by particular parts of the brain. A variety of remarks have been made in regard to this question of superiority and inferiority, but they have all been exceedingly one-sided; they leave a whole universe of facts untouched, that are equally cognate to this question. Is there no superiority and inferiority except as between the poor Negro and the White man? Is not the Asiatic inferior to the European? I maintain that he is. Are not the inhabitants of the Indian Ocean inferior to the Hindoo? I maintain that they are. Is not the Chinese, in one phase of character, very much inferior to the Hindoo? Is not the inhabitant of Asia Minor, or of Syria, a higher type of race than the Hindoo? Are there not relative inferiorities and superiorities in the different races of Europe, and even in the different races of one country? We talk of antipathies of race: you say that a White man will not give his daughter to a

Negro; I beg leave to ask whether an English nobleman will offer his daughter to an English peasant. Of course there are sympathies and antipathies of race, and I say that there are such among ourselves. If you live in familiar intercourse with the Negro, you find that he is inferior to yourself. You may possibly be a very fine fellow, you may be one among the superiors of a superior race, no matter how you became so. What is the kind of superiority after all? Is it not parallel to that which constitutes you superior to the peasant who tills your garden.

MR. G. McHENRY: No; it is not.

MR. BURKE: I differ from you in opinion very widely.

MR. G. McHENRY: And I do from you. I am afraid you are an abolitionist, sir.

MR. BURKE: This gentleman is at liberty to have his own opinions, and, of course, he will allow me to have mine. I contend that the difference is one of degree only.

MR. G. McHENRY: I pity you; you do not know better.

MR. BURKE: I must call upon the Chairman to prevent these unseemly interruptions. The gentleman can speak after I have done. If I have a servant in my house, I find that that servant has a different order of feelings, and is a different kind of being, in some respects, to the members of my own family. Does it follow that I am to make a particular distinction of species, and cut off that poor creature from us simply because she is a grade lower than we are? I for one maintain that there are gradations. There are such things as ethnic realms. For instance, there is a hierarchy of ethnic realms, and the individuals of one realm are higher than the individuals of another. I say that there are gradations in the subdivisions of those realms; and I say further, that there are gradations in the subdivisions of every great nationality. But if I believe that the Negro is by descent of a different origin from the white, that would compel me to believe that one class of the community in a civilised country is of different origin from another. Arguments have been adduced to prove this broad distinction between the Negro and European, as if there were no other people that had distinctions among themselves. I do not for a moment hold that the Negro is equal to the White, no more than the peasant is equal to the gentleman. I do not mean to say, that out of the peasant may not spring a gentleman.

MR. G. McHENRY: Out of a black man there cannot spring a white man.

MR. BURKE: Too much stress has been laid on the conventional distinctions of the Negro. Negro Africa is a large ethnic centre, in which there are a great variety of types. We have become familiar with some of the very lowest of those types, and that has tinged the whole range of our intellectual notions with respect to the Negro. There are places in Africa where the difference between the Negro and the European is extremely slight, comparatively speaking, and there are other places where it is extremely great. As to the question of hybridity, it has been denied that a fertile offspring can proceed from the Negro and White man. Those gentlemen who have the

kindness to settle all that assure us that a fertile offspring will proceed from the intermarriage of any one particular type in our own country; but, if it is meant to be said that you cannot, by any possibility, have a fertile offspring by marrying a Mulatto with a Mulatto, and so on, I can only say that those facts have not yet been laid before the world in a manner that will justify the conclusions that have been drawn from them. Many observers of facts are very poor reasoners; they draw their deductions from limited areas, forgetting all creation around them, and are frequently satisfied with one explanation, when, perhaps, if they went a little further, they would be at no loss to find another. This is, perhaps, a little of the *argumentum ad hominem*. But I must say that too much is made of this anatomical *finesse*. There is a tendency to make anthropology to consist of little observations that prove nothing. I say that anthropology ought to be studied in its universality, and that laws are not to be laid down by any special men who have gone through a whole lifetime working in a certain groove, and have not, perhaps, ten ideas out of it. It is a question into which everything is to be taken into account, and, above all things, it is a question of physiology, and not of anatomy.

MR. L. OWEN PIKE: I have listened with great pleasure both to the paper and to the discussion, particularly as there has been less discrepancy of opinion as to facts than generally occurs in these discussions. It has been admitted that the osteological distinctions which have been pointed out do occur, but there has been great difference of opinion as to the mental capacities of the Negro. I think that, from the very unsatisfactory state in which the science of psychology at present is, there is a probability that we might arrive at a more definite conclusion if we paid a little more attention to those psychological laws which are now tolerably well ascertained. In no case do the advocates of the equality of the Negro give us their grounds for holding that opinion. Only one example was mentioned, and that was the example of Toussaint l'Ouverture. Now, I think that, if those psychological laws, which are well ascertained, were applied to different nations, it would be possible to construct a scale, showing how far each race differs from other races. For example, I think it would be possible, by applying the statistical method, to show what were the occupations of the white man. That might certainly be done in all the European countries; and, from the researches of travellers we might see what are the occupations of black men. We might then apply to these observations the psychological laws of construction, contiguity, and similarity. We might also take the most eminent specimens of each race. We might take Toussaint as the highest specimen of the black race; he is one not among thousands, but among many millions. We might compare him with those whites that have distinguished themselves in all branches of science, and think that Toussaint—if we take the most favourable accounts of him—displayed the same power of constructive association; not a very great power of deducting similarities, and about the usual mind of what Mr. Bain calls adhesiveness; which is, perhaps, nearly the same thing as memory, though not quite. Among the white men we

find innumerable instances where great powers of deducing similarities are displayed, where the powers of construction infinitely surpass those of any Negro man, and where the powers of contiguity, perhaps, are superior, but certainly equal. It has been said that the Negroes have a great power of acquiring languages, and that, according to Bain, is said to be an evidence of the working contiguity, which is, in short, the faculty of memory. Now, if Negroes acquire other languages with as much accuracy as they seem to acquire the English, I do not think it speaks very much for their genius. They seem to be utterly deficient in what is called the articulate ear. It has been said that the civilisations of Egypt and other civilisations have passed over the Negro without effect. The answer to that, I think, has been, that it was only as a slave that the Negro came into contact with civilised nations. Be it so; but slavery, till the Christian era, and for some time after, was almost universal. How is it that other nations, the bulk of which were slaves, have emerged from that state? When we see the son of a Negro slave displaying the genius of a Horace, we may then entertain the question of the equality of the Negro and the White man. It has also been said that woman is as inferior to man as the Negro is to the White man; I do not consider that this is at all a parallel case, for this reason: that the son of the white women may be the greatest of men, whereas we have no instance of the son of any Negro, either man or woman, being a great man at all. Much has been said about species, but I do not think we can arrive at any distinct conclusions as to whether the Negro belongs to the same species as the White man until we know distinctly what species is. The great argument, the proof that distinctions of species naturally exist, is that the offspring of certain so-called species are not prolific, or that the so-called species, when united, have not offspring at all. But it seems to me that there is no broad line of demarcation whatever; because some of the so-called species are, to a certain extent prolific, where is the line to be drawn? If you say certain species have no offspring, we should know what we are talking about; as it is we cannot draw a line whatever. It seems to me you might as well argue that because the French population in France is now stationary, that that is a sign that the French people have ceased to be prolific. We might, therefore, conclude, that the union of the Franks and the Gauls was a union of two different species, and that the test of species is now beginning to show itself; and that, secondly, they are dying out according to the law that no hybrids can perpetuate themselves. It seems to me also, that, in this case, in which the fertility is said not to go beyond the first generation, or, perhaps, the second, you cannot have any proof whatever that that want of fertility results from the fact of their being different species; because there are an immense number of other cases which have to be eliminated; and because, in all probability, in all these cases only a very few individuals of either species have been tried. I think, therefore, that in the present state of science, we cannot lay down any law whatever about species. As I before suggested, something might be done by working upon the laws of association, the

principles of which, I think, date from the time of Aristotle, and have stood their ground very well until the present day. I think, also, that the science of craniology—if that is a separate science by itself—should walk side by side with zoology and with osteology, and, in fact, with physiology. Cerebral physiology is at the present in so uncertain a state that it is impossible to decide perfectly that the brain is the seat of the mind. It has been stated by Mr. Bain—and he has supported his statements by very ingenious arguments—that the brain is not the *sanctum sanctorum* in which all our thoughts are locked up, and from which new thoughts are evolved. He holds, on the contrary, that the whole of the nervous system, in fact the whole of the system altogether is what constitutes the human mind. Till that theory is disproved, it certainly is incumbent upon us, as an anthropological society, to ascertain how far there is a correlation between the skull, the brain, and other regions of the body; and to ascertain also, if possible, what that so-called temperament may be which enables one man, who appears any larger than another, to do frequently more while he lives, and to do it frequently better.

MR. HUGH J. C. BEAVAN, M.A.*: I listened with a great deal of interest to the very valuable paper read by my friend, Dr. Hunt, at our meeting, and I also carefully followed the discussion which ensued. Now I am always sorry to find one side of a question alone argued, for it tends neither to instruction nor real utility; but I am bound to say that I have not noticed that any arguments were brought forward tending to disprove the theories advanced by Dr. Hunt. The truth, or an approximation to it, can only be obtained by discussions *pro* and *con*; and, although it seems that, in the present state of our knowledge, nothing very definite can be determined on the subject, I consider that Dr. Hunt's side of the question has been fairly proved, so far as we can go in our present ideas concerning Anthropology. The theory of two different races is one which caused some attention to be paid to it many years ago, and several well-known masters of ethnology have subscribed to it, with certain reservation, as Dr. Hunt told us. We must look upon it, however, as a purely scientific question, without any touch of sentiment. To say that a Negro is a man and a brother partakes largely of sentiment, and it may be all very well in its place; but we must forget such ideas in an anthropological debate. To a certain extent, the questions we have been discussing resolve themselves into a matter of feeling. I do not say but that they are, and must be considered in a scientific manner, but feeling, and even politics, will unconsciously force themselves upon our minds in speaking of such an important question. As Dr. Hunt said, those who uphold his theory will be charged with encouraging slavery. Perhaps it may be so—I would rather that took place than that we should resign our opinion for the mere sake of agreeing with the abolitionist party, or of appearing to be philanthropic. Scientific truth is to be upheld in spite of all sentiment or party feeling. It seemed to me

* It was Mr. Beavan's intention to have delivered these remarks; but, in consequence of the lateness of the hour, it was only possible to hand them to the reporter.

that, at the last and present meetings, two or three gentlemen spoke as if they thought Dr. Hunt and Mr. Reade wished to make out the Negroes to be worse than they really are; as if they had some curious, unaccountable, and mysterious desire to asperse the character of these ill-used individuals. Now that cannot possibly be the case, seeing we have reliable data concerning the Negro character with which to work, and those authorities can be referred to by all. Those who have experience in the matter state that the Negro character is sensual, tyrannical, sullen, indolent, etc. That their life is a *purely* sensual one, and that it is no use trying to obtain an insight into the mind of the Negro, because he has very little of it, and it is never worth the trouble. Whether character has much to do with races I leave to others to determine; at all events, if it has, we cannot quite consider the Negro to have the same intellect and moral nature as ourselves. I quite agree with our President as to the *horrors* of the slave trade, and, like him, protest against being thought to favour it. Discussing the faults of the natural Negro, however, is far from advocating slavery. But it is curious how our opinions alter. I happened to meet a day or two ago with a pamphlet, dated 1744, and entitled *The African Trade in Negroes, the Great Pillar and Support of the British Plantation Trade in America*. It purports to be written by a merchant to a member of the English ministry, but names are not mentioned. Among other things, the author says, "Are we not indebted to those valuable people, the Africans, for our sugars, tobaccos, rice, rum, and all other plantation produce? And the greater the number of Negroes imported into our colonies from Africa will not the exportation of British manufactures among the Africans be in proportion, they (the Negroes) being paid for in such commodities alone? and as Negro labour hitherto has, so that only can support our British Colonies, as it has done those of other nations. It is that also will keep them in a due subserviency to the interest of their mother country, for while our plantations depend only on planting by Negroes, and that of such produce as interferes only with the interests of our rivals, the French and Dutch (who at that time dealt largely in Negroes), not of their mother country, our colonies can never prove injurious to British manufactures, never become independent of these kingdoms, but remain a perpetual support to our European interest, by preserving to us a superiority of trade and naval power." Again, after observing that it had once been proposed to abolish the slave trade by Act of Parliament, our author continues: "But the consequences of such reflections are of so melancholy a nature to every man who has the least regard to the interest of his prince and his country, that we will drop these gloomy apprehensions of abolition, and rather please ourselves with the agreeable idea of seeing such a glorious spirit appear in a British parliament for the support of this most important commerce and navigation, as will transmit our African and plantation trades with security to latest posterity." These ideas are rather different to those propounded in the present day, and circumstances have slightly altered the "independence" of some of our colonies; but although not quite explanatory of our present subject, I think the

extract interesting, as giving the trader's idea on the subject. In the article "Negro," in the third edition of the *Encyclopædia Britannica*, date 1797, which article, strangely enough, is not to be found in the last edition, we read: "Vices the most notorious seem to be the portion of this unhappy race,—idleness, treachery, revenge, cruelty, impudence, stealing, lying, profanity, debauchery, and intemperance are said to have extinguished the principles of natural law, and to have silenced the reproofs of conscience. They are strangers to every sentiment of compassion, and are an awful example of the corruption of man when left to himself." Concerning the island of Santo Domingo, where the great insurrection is now raging, showing the bloodthirstiness of the Negro in a rather powerful light, Mr. Evarist, a Wesleyan missionary, wrote in 1821: "Every door is shut against us, and we are deprived in every possible way of liberty to act according to the Gospel, our own conscience, or the light of truth. This life is a burden to me, on account of the fearful and horrible things that I see." In an official letter from the same place, date 1823, we also read: "The unsophisticated denizen of the African wilds (and we know what *he* is like) is ennobled by comparison with the wretched degradation of his Haytian brethren, not merely relapsing into barbarism, but sinking fast under an odious combination of the darkness, ferocity, vices, and superstitions of all colours and all nations, unredeemed by the virtues of any." (Hampden *On Clarkson's Letter*, 1824.) I have not made these observations with any view of defaming the character of the Negro; but Dr. Hunt's paper has led me to examine into the subject. and I have satisfied myself on the points which he wishes to prove. Nothing decided can, of course, be discovered on such a point. It will take much time and both long and patient inquiry to do that; but, as I have no doubt Dr. Hunt's paper will be discussed and opposed by many societies, both at home and abroad, I hope we shall be able to obtain reports of their meetings, and be able also ourselves to add, in some slight degree, to the study of Anthropology. I may also express a hope, that the discussions which may hereafter take place on important papers may be to the point, and not ramble over such a wide space of ground as philanthropy, Darwinian, and other theories, instead of answering or upholding the stated views expressed by the author of a paper.

Dr. HUNT. I will not detain you long, but I think that the time has now come when I had better reply to the remarks that have been made. And first I would say that I did not expect that the harmony we had at the last meeting was likely to continue to the end of the debate. The speakers then, without one exception, supported the views I advocated. To-night I have listened with very great interest, in the expectation that I should hear something on the other side of the question. I am sorry, however, that the discussion this evening has not been so much to the point as it was on the last occasion. Indeed, many of the speeches we have heard this evening have wandered very far from the paper which I read. Three of the principal speakers, indeed, do not appear to have heard a word of my paper, and apparently have not even read the conclusions to which I

have arrived; therefore we cannot wonder that they have made speeches that are entirely foreign to the object of my paper and even to its title. I will, however, go over a few remarks that were made at the last meeting. And, first, with regard to the entozoa and other parasites being distinct. As Mr. Blake has said, all our present knowledge is given in a volume, Waitz's *Anthropology*, published by the Society. All observers have noticed that they are distinct, but whether that amounts to a difference of species, is a question to which, in the present state of our information, no answer can be given. Mr. Pusey reminds us that the Negro, when in contact with the European, has generally been in a state of slavery. That of itself suggests the inquiry, whether the whole course of history, for the last five thousand years, has been one gigantic wrong, or whether there has not been more justice in history than we may imagine; whether, really, it is not natural that he should be in subjection to those who are born wiser. I most fully admit the fact that the Negroes have always been slaves when in connection with Europeans, and I cannot admit that history has been one series of wrongs. Mr. Pusey tells us that the Negro can be made a skilled artizan. I doubt this very much of the pure Congo Negro, from the thickness of the skin of the fingers, and the well-known fact that all the skilled intelligent artisans in America are Mulattoes. I will not touch upon that, however, as it will come into another discussion, when we will go into the question of Mulattoes, and when I shall be able to show that the cases produced by the Abbé Gregoire were Mulattoes. With regard to hybridity, I am sorry that those gentlemen who have spoken on the subject to-night were not here on the last occasion to hear Dr. Seemann's observations on the dying out of mixed races. Mr. Reade very properly directed our attention to the fact that Africa is not exclusively inhabited by Negroes. We know perfectly well that it is not so. If we go to the extreme south of Africa we get a perfectly distinct type of man, represented by the Hottentot. The Negro gradually improves till we get about ten degrees above the equator, until we get to the Foulahs and Mandingoes, which are perhaps the highest type of that race. It has been said, and not without truth, that the intellect of all the people below the tenth degree is as dark as their skin. Now, we do not know enough of Central Africa to say much about it. The Nubians, the Ethiopians in the north of Africa, are all distinct from the typical Negro. In East Africa there are some pure Negroes so much lower than those in the West, that they are refused by the slavers. Prichard made a very good generalisation when he said that the darker the colour, and the nearer the approach to the typical Negro of the West Coast, the more brutal and un-intellectual they are. That I believe is one of the best generalisations that Prichard ever made. It is in perfect accordance with what we might expect from their physical organisation, and is, I believe, entirely borne out by all the recent researches in ethnology. Then we have been told that the shape of the brain could be altered, but I have really not heard a single anatomical or physiological fact brought forward in the paper seriously criticised. We know of no facts to

support a theory that any agencies can alter the shape of the brain. I recently had a chance of seeing a native of Haussa. I was told I should find European features, and I went expecting to do so, but, on the contrary, I found that in all the great characters—the projection of the teeth, the colour of the hair, and though the proportions of the limbs were not so bad as in some other African tribes, yet in all these particulars there was the Negro race. We hear anatomy and physiology spoken of as if they were separate—as if they had not always been combined. Now I, for one, have not based my conclusions solely on anatomical grounds. I say that in America years of observation have shown us that, up to about twelve years of age, the Negro children are very intelligent, but that you can make no progress after the second generation; they then arrive at about the highest point you can ever bring them to. It seems to me a much more philosophic view to suppose that there is a certain amount of permanence of type in the various divisions of the human family, to accept the teaching of historical facts, and to believe that the various races which are found are not descended from one another. I shall not go into the principles of classification, because that comes into another question—how many races are there in Africa. I fully admit that there are a large number of races in Africa, but I take the Negro as represented by the Negro of the Congo. I don't consider the classification of African Negroes at all satisfactory. There is no doubt that a great many of those European-featured men that have been seen, have European, or rather Arabic, blood in their veins. With respect to one of Mr. Reade's remarks, I am thankful he was not up at Newcastle when I brought forward some simple facts in anatomy and physiology. I was then met with a considerable amount of hisses, I assure you; but when my friend said that the Negroes should be flogged occasionally, that corporal punishment was necessary, and that taking them out of Africa to America was like taking them from hell to paradise, I thought that if he had been at the British Association, I would not have answered for his life. (Laughter.) I must leave his opinions without any criticism, except that I think we shall not be much inclined to doubt their truth. Dr. Murie, who has travelled very largely in Africa, and is a very good observer, agrees with the opinions I have brought forward. He says, "Have we any right, however, to enslave our brother?" Now, of course, we do not say we have any right to enslave our brother; but the question still remains, "Is the Negro our brother?" I did not say that he was, and it is rather begging the question to assume that he is. The six deductions I brought forward are quite independent of one another. The proposition that the Negro is always happiest in subordination to the European, does not necessarily include slavery, as we understand it. Then Mr. Reddie made some remarks to the effect that the Negroes are supposed to be the refuse of the population. Mr. Reade, I believe, agrees with it; but I must say I do not. I believe that the Negroes represent a race, and not a class; and though there are many Negroes who pass from one tribe to another, yet slavery is an institution that belongs to Africa. Some races are selected for

one thing, and some for another; the Eboes, for, instance, are used for domestic slaves. Mr. Louis Fraser, who I am sorry has not spoken to-night, went several hundred miles up the Niger with the expedition, and seems to have received impressions with the most unbiassed mind—he quite agreed with what I said as to the European features being due to mixed blood. I agree with him, also, that black is a rare colour, and that it was not a character of consequence. There is a popular piece of poetry about “fleecey locks and black complexion.” No doubt skins do differ, especially in their odour; for I believe all abolitionists know too well to their cost the disgusting odour of the Negro, which prevents their associating with them. With respect to the definition of the word “species,” I must leave that to another occasion. I may explain that the present paper was written subsequent to one on classification, which I read at the British Association. Some of these matters, however, will be brought forward again. I have not said that the Negro was a distinct species; I have simply said that, if we are consistent, and carry out recognised principles of zoological classification, he ought to be. That, of course, brings up the whole question “What is species?” and that question is now *sub judice*. And now a few words as to the discussion that has taken place to night. I have nothing to remark as to the first two speeches. Mr. Dingle said that there was a great responsibility in cutting off a large portion of men from the benefits of civilisation. I am not aware that anything I have brought forward has done so. I do not admit the fact. He believes in the unlimited fertility of the intermixture of all races of man. I only hope he will examine the evidence that has been brought forward on that subject by the Secretary of our sister society. If he will examine the book of M. Broca, *Sur l'Hybridité Humaine*, and the work written by the celebrated anthropologist, Dr. Nott, I think he will see that Prichard's views on the subject are no longer held by men of science or by men whose opinions are of any value. Dr. Seemann, will, I think, give him data that will show him that he must not quote Prichard now on the subject. The difficulty of obtaining pure crania is immense. Dr. Nott wrote to Professor Wilson to say that he had the greatest difficulty in procuring him a really genuine Negro skull. Then I am told that I did not give an impartial and fair account of the Negro. I must ask you to judge when you read my paper whether I have done so or not. I have certainly gone over a large amount of evidence, and have been in personal communication with all the Negroes that I could meet. I can appeal to my friend Mr. Louis Fraser, to whom I sent a copy of my paper, and who, with Mr. Ashmall, went through it. They wrote to me, expressing their cordial agreement with every particular with a few exceptions, which they indicated in the margin. When therefore, I am told that I have not given an impartial account, I must ask you to bear in mind what has been said about it by men like Mr. Fraser the naturalist, who accompanied the Niger expedition, and Mr. Ashmall, a Liverpool merchant, who has resided

eighteen years on the continent, and who is so well able to pronounce an opinion on the subject. Mr. Dingle says that the Negro advances in civilisation in the Confederate States of America. I have admitted it. I have admitted that they have made more progress there than in any other part of the world. I admit that up to the second generation the Negro does improve, and I say that we have to thank the Confederate States for this improvement, which shows the enormous benefit they have received from being taken out of Africa. And with respect to my slight of philanthropists, really those who slight philanthropy are those who do not like to see the Negro in that position in which he is most benefited. I asserted that he was best off in his natural subordination, and that while I wished to improve him the abolitionists wished to keep him in Africa. And with regard to exploded views, really, I must put it to gentlemen who are anthropologists to say which are the exploded theories. I have no fear of the result. With respect to Mr. Bendyshe's interesting remarks, he has gone over a wide field, and he did not hear the whole of my paper. If he had, I think he would have reserved his excellent essay till another occasion. He also touched on the improvement observable in the race of America. But with regard to the Negroes approaching the Indian type that is entirely imagination, and utterly unsupported by facts. Then he asked how we should behave to any higher specimen of anthropoid ape which might be discovered, and I must confess that is a subject I have not thought of. I shall be prepared to do so when we discover such a specimen. He said he would not dispute that the Negro was nearer to the ape than the European. That is my proposition, and I am much obliged to him for his support. Then, as to the best way of civilising the Africans—that is a large question, and I hope we may have the advantage of discussing it a future day. Mr. Reade thinks there will be found an anthropoid species between the man and the ape in central Africa. I have nothing to reply to that, although it is a very interesting field of speculation. Mr. Pliny Miles made some remarks, but he had not heard my paper, and I don't know that it is any use to reply to him. He spoke of the Nubians as Negroes.

MR. P. MILES: No; the Numidians.

DR. HUNT: The Numidians were certainly not a Negro nation; and he also spoke of the United States of America; I suppose he meant to have said the Federal States. And then with regard to the name of the celebrated Negro engineer, which he forgot—unfortunately it is of very little use for scientific purposes if we forget these data. I think, also, that if Mr. Miles had heard the paper he would have thought it not beneath him to adopt towards it a tone of serious argument instead of flippant banter. With respect to anatomy not being supported by physiology, and the former not being worth a snap of the fingers in a question of this kind, I beg to say that I have not ignored physiology. Mr. Burke, however, did not hear the paper, and therefore necessarily has not understood that portion of it. With respect to antipathy of race I was sorry that my friend, Mr. Blake, brought that forward. I have no antipathy of

race, and I should not encourage it. Mr. Burke tells us that a nobleman will not give his daughter to any one lower in the social grade than herself; but I beg to remind that gentleman that a nobleman's daughter will sometimes run away with a groom—showing that there is no antipathy of race. And now, in conclusion, I will simply read you the propositions I made in my paper, and then you will see exactly what we have gained by what has taken place. The first proposition was this: "That there is as good reason for classifying the Negro as a distinct species from the European as there is for making the ass a distinct species from the zebra; and, if we take intelligence into consideration in classification, there was a far greater difference between the Negro and Anglo-Saxon than between the gorilla and chimpanzee." No speaker has attempted to deny that proposition. Indeed, it relates more nearly to the question of classification than to the Negro. The second proposition was, "That the analogies are far more numerous between the Negro and apes than between the European and apes." I think that this has been universally admitted. I have not heard anything in answer to it; so that there are two propositions gained. Then we come to the third: "That the Negro is inferior intellectually to the European." That has, I think, been carried with scarcely a dissentient voice. The fourth proposition, "That the Negro is more humanised when in subordination to Europeans than under any other circumstances." Now I really was afraid that that would not be carried; at any rate, I thought it would lead to a great deal of discussion; but I have to thank my friend Mr. Dingle and others for their support of it.

Mr. DINGLE: They are free in Sierra Leone.

Dr. HUNT: I say that in Sierra Leone the pure Negro is very much inferior to what he is in the Confederate States of America. In Sierra Leone he will not work, and is not humanised.

Mr. P. MILES: Were we not charged to avoid that as a political subject?

Dr. HUNT: The gentleman has admitted all I want, and I am much obliged to him. The fifth proposition is "That the Negro race can only be humanised and civilised by Europeans." That has not been established, but as it does not matter whether the Negro is civilised by Europeans or from Asia, it is a proposition which I need not insist upon, although I had my reasons for putting it in the paper. The sixth is "that European civilisation is not suited to the requirements and character of the Negro." That I think particularly applicable to our English institutions, where we see the melancholy exhibition in our colonies on the West Coast. Trial by jury there is a perfect farce, and the sooner that and some other things are done away with the better. We have now completed this discussion. There is no doubt a great deal more to be said on everything that has been brought forward, and all I can say, Mr. Chairman, is that I have simply been anxious that the truth should be elicited. I have also to thank those gentlemen who so kindly came forward at the last meeting and supported my conclusions with the weight of their large experience, and the testimony of their travels.

Mr. BURKE: Allow me to put a question. What is your particular

ethnic reason for singling out the Negro as the subject of this particular discussion, rather than many other races which are some of them inferior and some superior to the Negro?

Dr. HUNT: I shall have much pleasure in answering that question. I stated in my paper that there were about six races below the Negro, and six above him, taking the capacity of the cranium in the Negro as the test. I selected the Negro, because I considered the race to be well defined—taking the Congo Negro as my type; and also because I knew of no subject so involved in mystery, and on which there exists such an enormous amount of misconception as about the African Negro. I thought, therefore, that if I could do away with some of this misconception, and also with some of the cant which has been introduced, not only into public assemblies, but also into scientific meetings, I should be doing a duty to science.

Mr. DINGLE: I submit that that word ought not to have been used.

Dr. HUNT: I should be sorry to say anything that would give offence, and, therefore, I withdraw the word "cant," and say that the prevailing erroneous idea respecting the Negro is due to ignorance or want of accurate information on the subject. I thank you for the kind attention with which you have listened to the paper, and I can only hope that my humble effort may be the means of doing some good, and putting the real character of the Negro in its proper light, which will be for his own benefit and for the benefit of society at large.

Mr. MILES: What particular scientific bearing on the question, has the opinion of the individual Dr. Hunt calls an abolitionist on the odour of the Negro's skin?

Mr. G. McHENRY: Before that question is answered, I want to say something for the historical information of the gentleman who puts it, and who, I believe, is a native of Massachusetts. Massachusetts has never passed a law abolishing the slave trade, and it is pure hypocrisy to mislead John Bull on the subject. Moreover, every Southern State has laws against the African slave trade, and there is not one Northern State that has passed such a law.

Dr. HUNT: I am sorry that Mr. McHenry, who is well qualified to speak on this subject, did not address us before, for he is well known and respected for the great attention he has paid to the subject of the Negro. I believe the remarks he has made are entirely in accordance with the facts of the case.

Mr. PLINY MILES: So far as regards myself they are wrong. I am not a native of Massachusetts, and I am not a Yankee.

The Chairman then declared the discussion ended, and the meeting then adjourned.

DECEMBER 15, 1863.

JAMES HUNT, ESQ., PRESIDENT, IN THE CHAIR.

The minutes of the previous meeting were read and confirmed. The following new Fellows were elected: John Lister, Esq., Bayswater; Francis Drake, Esq., Leicester; J. W. Walton, Esq., 21B, Savile Row.

The thanks of the Society were voted to the following gentlemen for donations to the Library and Museum:—Proceedings of the Soc. Antiquaries, London, by the Society; Flint Arrow-heads, by Dr. Royston Fairbank; McHenry's Cotton trade, by the author; Proceedings of the Geologists Association, by the Society; Memoire de la Chevelure, etc., by Dr. Pruner-Bey; Transactions of the Geological Society of Glasgow, by the Society; Sir C. Nicholson on the Australian Colonies, by Professor Tennant; Memoires de la Société d'Anthropologie, by the Society; Owen on the Aye-aye, by C. Carter Blake; one hundred and nineteen works on Anthropology, by the President of the Society, Dr. James Hunt.

The following papers were then read:

On Crystal Quartz Cutting Instruments of the Ancient Inhabitants of Chanduy (Near Guayaquil in South America). Found by Mr. Spruce. By CLEMENTS R. MARKHAM, Esq., Hon. Sec. Royal Geographical Society.

The three ancient cutting instruments of the former inhabitants of Chanduy, at the mouth of the river Guayaquil in South America, (now exhibited) are chips of transparent quartz crystal. One of them is broken.

These crystal lance heads and knives are found all over the country, from the point of Santa Elena to the town of Guayaquil; but it is near the latter place that they occur in greatest abundance, chiefly on certain low mounds, laid bare by the winter rains. A French apothecary, named Reyre, took scores of them to Paris a few years ago.

The present specimens were found by Mr. Spruce near the little town of Chanduy, on the sea shore, in *middings*, or refuse heaps similar to those in Denmark. These *middings* consist chiefly of fragments of pottery, and of sea shells of four species, an oyster, a mussel, a cockle, and a large heavy bivalve, beautifully fluted, and with a remarkably thick bevelled edge, called by the inhabitants *pié de burro*. The latter shell is not now found on the coast near Chanduy.

The formation of the land round Chanduy, is precisely the same as that of the coast of Peru—land recently upraised from the sea—the uppermost strata being shell marl, lower down calcareous grit, but all containing only recent shells.

The point to which I would wish to draw attention, in regard to these quartz crystal cutting instruments, is that the people of this country, when the Spaniards first discovered it, were using bronze

cutting instruments. That mentioned by Humboldt as having been found near Cuzco, is composed of metal, containing 0·94 of copper, and 0·06 of tin; and, in describing it, he remarks that everywhere in the old continent, also, at the beginning of the civilisation of nations, the use of copper mixed with tin (*χαλκος*) prevailed over that of iron. The old inhabitants of South America, at the time of the Spanish conquest, were, therefore, passing through their age of bronze, and had not yet entered upon their age of iron. In the present state of our information, it would be unprofitable to discuss their origin; but they may fairly be considered to have been indigenous to the American continent, to be, by many ages, a younger race than any of those in the old world, and to have been, by slow unsteady steps, working their way towards a higher civilisation when the Spanish invasion suddenly destroyed their separate existence.

Three centuries ago, then, they were in a stage of development analogous to that through which the old world races had passed many centuries earlier, and which is now called the *bronze age*. But these quartz crystals seem to prove that at some much earlier period, when the refuse heaps of Chanduy were made, there had been a *stone age* preceding the *bronze age* of the South Americans, just in the same order as these successive epochs are believed to have occurred in the history of the European races; and it is from this circumstance that, I believe, any interest that may be attached to these relics, will arise.

It is worth while to mention that the district where these quartz crystal instruments and refuse heaps are met with, including the point of Santa Elena, is famous for having been the locality where huge fossil bones have been found from time immemorial. Among the ancient inhabitants, these bones gave rise to a tradition, that a monstrous race of giants once landed at the point of Santa Elena, and were afterwards destroyed by God for their wicked enormities. In the middle of the sixteenth century, when the adventurous young traveller and chronicler Pedro Cieza de Leon visited this part of the country, he heard the tradition of the giants from the mouth of Indians. He adds, in order to prove the truth of the story, that he knew Spaniards who had seen part of a tooth weighing half a butcher's pound, and a shin bone of marvellous size, both found near the Point of Santa Elena. Mr. Spruce tells me that the bones of large mammals are still found near Chanduy, chiefly along the coast, where portions of the cliffs are continually falling in; and that a French naturalist, named Berthier, carried off some large teeth a few years ago. There is a deposit of similar bones on the banks of the Chambo, a league from Kiobamba, in the Quitenian Andes, where an English naturalist, named Fraser, made excavations in 1858, which were continued by Dr. Garcia Moreno, the President of the Republic of Ecuador; and amongst other fossils a *scapula*, quite entire and of gigantic size, was dug up. These bones of extinct mammals are probably of the same genera as those found in the analogous diluvial deposits at Tarija in Bolivia, which have been described by Castlenau and others, namely, of mastodons, glyptodons, megatheria, &c.

The fossils of Point Santa Elena have not, to my knowledge, been scientifically reported upon; but it will be very interesting if, as is probable, evidence should be hereafter adduced to show that these gigantic mammals existed on the recently upraised beaches of the west coast of South America, contemporaneously with the people who made the refuse heaps and quartz crystal knives of Chanduy. Such a discovery would throw back the *stone age* of this people to a far more distant period than the other evidence before us would seem to indicate.

I may remark, in passing, that an author named Ranking, who wrote in 1827, founded his fantastic theory that Peru and Mexico were conquered by Mongols accompanied by elephants, chiefly on the fossil bones and tales of giants in the neighbourhood of Point Santa Elena.

That in the earliest ages of man's history all advances in the useful arts were extremely slow and gradual; that incredibly long intervals of time elapsed before even a slight improvement was made in the form of an arrow head, is, I believe, a generally received opinion. It is not until civilisation has reached an advanced stage, that discoveries begin to follow each other rapidly; while, in man's more primitive state, he remains almost in the same condition for many centuries, and advance is slow and almost imperceptible. Archbishop Whately, indeed, goes so far as to declare that the evident inability of savage nations to make any progress in the arts, is a perfectly satisfactory proof that man would never have become civilised but for a special revelation.

There is nothing improbable, therefore, in the supposition that the descendants of the people who sat on the refuse heaps and used quartz crystal knives while megatheria and mastodon still wandered over the South American continent, had only, after the lapse of countless centuries, reached a civilisation which is represented by bronze chisels, grotesque pottery, and rude gold and silver ornaments, when the Spaniards first landed on their shores.

That the skill and taste of these people, the inhabitants of the coast near Guayaquil and of the neighbouring islands of Puna and Muerto, was far from contemptible at the latter date, is proved by a very interesting discovery made on the latter island about three years ago, an account of which has been sent me by Mr. Spruce. The remains which were then found would certainly indicate no mean degree of civilisation, and I propose to conclude this paper with a very brief account of one or two of them. It will show to what point the descendants of the chippers of quartz crystal had attained, when they were overwhelmed by the Spanish conquest. One of the objects was a small statue, six or eight inches high, of pure gold, and very creditably sculptured. But by far the most curious was an ornament, consisting of several thin plates, almost like a lady's muslin collar in size and shape, and covered with figures. One of these ornaments has perhaps a hundred figures of pelicans, the sacred bird of these people according to the local tradition. Every figure represents the bird in a different attitude, and, as they have been stamped, not engraved, a separate die must have been used for each figure. They are all of gold, but some of them with a considerable alloy of silver.

These interesting relics were found by the lighthouse man on the island of Muerto, in an ancient burial place, and sold by him to Mr. Reiss, the Prussian Consul at Guayaquil, who is since dead.

The PRESIDENT said, that these crystal quartz instruments were of considerable interest, and he believed, that similar ones had never before been described. It was most important to endeavour to correlate these instruments with those used in other countries. He thought that they represented some of the flint implements found in the Old World, and if the substance of which they were composed was taken into consideration, they would bear a great analogy with the obsidian knives of Mexico. He agreed with the author of the paper, that the finding of these implements in America did not in any way favour the relationship of the races of the Old and New World. He was, however, inclined to believe that the identity in the shape of these implements showed a connection of ideas between the Old and New World. When Cortez visited America the inhabitants were, no doubt, using bronze implements; but had they arrived at this civilised act by their own innate development? Was it not more likely to suppose that they held communication with Europeans during the bronze age, but had no communication since? As to Dr. Whately's theory, that it required a special revelation for science, he was ready to admit that some savage races were quite incapable of dragging themselves out of their barbarous condition, or of inventing any of the arts of civilised life: but he contended that there are races who *are* capable of inventing a civilisation, and who are able to give "special revelations" to some of the inferior races.

Mr. S. E. B. BOUVERIE-PUSEY agreed with the statement of Archbishop Whately, that there was no case on record of any race ever having civilised themselves. Had we any right to suppose there ever existed a race who were capable of doing so? He saw that it was quite impossible for any of the existing savage races to become civilised, except by continued contact with the superior races.

Dr. BERTHOLD SEEMANN would prefer not to introduce Archbishop Whately's argument. He thought that the broken pottery alluded to indicated a state of civilisation far above the state of the lowest savage. The art of preparing food so as to be cooked was one which required some time for its development, and he was not surprised that the aborigines of Ecuador had the same detestation of "cold dinners," which was possessed by higher races. Even the most simple culinary operation, like the preparation of the Australian "damper," required much care throughout the process, and such comparatively complicated operations as the acts of steaming food, or preparing soup, necessitated the attainment of an average degree of civilisation. He alluded to the descriptions by Mr. Bollaert of pottery from Tarapacá, which resembled the pottery from Ecuador.

Mr. JAMES REDDIE remarked, that the object in question might possibly have been used for sacrifices, or for some other religious purpose. The act of first preparing the iron or bronze must have required a vast interval of time before it could have been successfully brought into operation.

Mr. G. E. ROBERTS stated that there was no historical or geological evidence of the contemporaneity of man with *Megatherium* and *Megalonix* in South America. The evidence on that point appeared to him to be very weak.

Mr. CARTER BLAKE called attention to the tradition of the existence of various mythological beings, the giants of Ecuador and of Bolivia, as e.g. at Tarija. The tradition of the *cayporè* of Brazil might possibly indicate a dim remembrance of the *Protopithecus* of the Postpliocene. Careful ascertainment of the past history of individual tribes was a desideratum. At Chiriquí the "stone age" had possibly passed through several stages of development.

Sir CHARLES NICHOLSON, V.P., remarked, that the existence of the tradition *per se* really went for nothing, until we had more determinate evidence. He described the shell mounds of the Malays at length, of which the historical age was uncertain.

Notes upon the Discovery of Mammalian Bones Cut and Sawn by Implements of Flint at Audley End (Essex). By GEO. E. ROBERTS, Esq., F.A.S.L.

In the course of railway works between Audley End and Saffron Walden, it became necessary to divert the course of the River Cam into a part of the meadow land bounding the stream, which was traditionally known as "the old river bed." A cutting about 20 feet deep through this, necessitated for the foundation of a wide and large culvert, to give passage to the river through the railway embankment, disclosed the following section:—

Section of the Ground at the River Cam.

Soil; 1·0 deep.

Clay; 3·0 deep.

Peat; 12·0 deep.

* * * * * Bones.

Gravel.

Near the bottom of this "peat," and at a depth from the surface of 16 feet, an astonishing quantity of mammalian bones were found. Mr. Hanson, the contractor of the line, informed me that, out of the excavation—an area of not more than 20 feet by 60—two cart-loads of "large bones" were taken away, and sold, to be converted into bone manure. I am exceedingly sorry that earlier information of this discovery did not reach me, and that no competent person made an examination of these bones before they were thus turned to a practical agricultural account. My friend, Mr. Middleton, visiting the site of the discovery shortly afterwards, was struck with the remarkable character of some bones of *Bos* shown to him, and, with praiseworthy zeal, collected a considerable number from the heaps of peat lying on the banks of the excavated channel. The bones to which I have specially to direct your attention were among those collected by him, for though I have since visited the spot, I was able to do little beyond a verification of the section, and the collection of a few fragments of the bones of *Bos longifrons*.

The peat is, more properly, a blackish clay, with numerous fragments of wood, and a few logs of considerable size bedded in it. It is everywhere full of fluviatile shells of species common to the district, and contains many naturally-formed chips and flakes of flint, and a few rolled pebbles.

Evidently the deposit, with its organic contents, is one which has accumulated in the river-bed, both by ordinary current action, and during flood-time. Neither do I think it can be of any antiquity, beyond from two to three thousand years.

The bones which bear the artificially-made markings are the lower jaws of a small ox, probably *Bos longifrons*, though I am not aware of any remains of this well-known species having been found so small in size. From examination of the skull, it would appear also that this individual was hornless. The markings upon the lower jaw are of two kinds—broad sawn cuts, extending in two series of connected markings, from the upper end of the coronoid process to the angle of the jaw, and in one well-marked example upon the opposite side of the bone, near the broad outer end of the condyle; and, upon the other jaw, one deep cut, having clean edges, the result of the removal of a long and thin slice of bone by two cuts, just below the condyle. Another portion of bone, part of the shaft of a tibia (?) also exhibits cuts, and, as suggested to me by Dr. Falconer, bears evidence of having been split by the introduction of a chisel-shaped tool, it being impressed with such a marking as would be made by an instrument of this kind driven wedgewise into the bone. Upon the broad end of a rib (also of *Bos*) a sawn cut also appears. The whole of these cuts are undoubtedly as old as the bones themselves, the surface of the depressions caused by the removal of the pieces of bone being coloured of a brown tint corresponding with the colour of the bone. When these bones reached me they were covered with the peaty clay, in removing which, a process done very carefully by myself, the cuts became exposed. Dr. Falconer examined the whole of the bones before they were washed, and first detected the two

parallel lines of broad cuts upon the one jaw while in their uncleaned condition. One of the jaws has been extensively gnawn by small carnivores, the inferior outline being broken, and the sides of the fracture scored with teeth-markings.

A single tooth of badger(?) was found at the same level in the cutting. I regret that my search among the thousands of flint-flakes contained in the deposit for any which could be considered as artificially formed was unsuccessful, not a single one occurring which could be referred to human handicraft. My companion, Mr. Middleton, also searched with no better result.

A remarkably fine horn of the great elk, *Cervus Megaceros*, was also found in association with these bones; I believe this was saved, and is now owned by a Mr. Woods, a farmer near Saffron Walden. The basis of my opinion, that the cuts and sawings upon the bones were produced by flint implements, is their dissimilarity from markings which would be made by iron or bronze weapons upon such a material. I am supported in my belief that these incised markings and scrapings were made by an edge of flint, by Mr. Christy, who has studied these bones long and carefully. He detects in the delicate ribs left upon the surface of the scoring by a flint edge the peculiar curve in the direction of the rib which corresponds with the curved outline of the edge, and which he has found existing in all cuts and sawings made upon bone by implements of flint.

After the usual vote of thanks, Mr. ROBERTS called attention to the state of the museum at Saffron Walden, which contained many valuable remains from the collection of the late Mr. Wombwell, who was a native of that town.

Mr. HUME GREENFIELD pointed out the difficulty of assigning any definite age to the remains in question, as the geological evidence was indeterminate and vague. The presence of *Cervus megaceros*, however, appeared to indicate a higher antiquity than could be inferred from the mere stratigraphical evidence.

Mr. CARTER BLAKE commented on the interesting fact that we had evidence of the existence of a hornless breed of oxen at a period of time historically distant, though geologically recent. He congratulated the scientific world that Dr. Falconer had taken up this most interesting subject, which in such hands would be productive of results of the highest value to English Anthropology.

Sir CHARLES NICHOLSON inquired whether the differentiative points between *Bos longifrons* and *Bos primigenius* and *giganteus* were distinctly made out so far as regards the dental evidence.

Mr. CARTER BLAKE replied that the difference in the molar teeth could, he thought, be detected between *B. longifrons* and *primigenius*. The late Mr. Turner had contributed valuable memoirs to the Zoological Society on the distinction between the teeth in the various genera of ruminants. He (Mr. B.) had been for many years accumulating facts on this subject, which had an important, although indirect, bearing on Anthropology.

On some Arrow-heads and other implements of Quartz and Flint from the Bin of Cullen (Elginshire). Extracted from letters received from Alexander Bryson, Esq., F.R.S.E., F.G.S., &c. By GEORGE ROBERTS, F.A.S.L.

THE immediate neighbourhood of the Bin of Cullen, more especially near to Cullen House, has long been noted for its antiquarian associations. Thereabouts the great battle was fought between King Indulfus and the Danes, in which that monarch was among the slain. My brother, who is factor to the Earl of Seafield, has lately found the resting-place of the king beneath a cairn, some thirty yards long by fifteen broad, made up of rounded stones, not cemented by lime, but rudely piled together. We intend disturbing the remains of this ancient Scottish king shortly, without the slightest fear of disturbing his slumbers.

About a mile from Cullen House, in a north-west direction, lies the great manufactory of flint arrow-heads and spear-heads, where probably the "ancient arrow-maker" held out a way-side sign. However this may be, nothing is to be found within an area of twenty yards square but flint *flakes*; I have met with hundreds, but with only one finished arrow-head—which is the small one exhibited.

Finished arrow and spear-heads are abundant round this "workshop," and are often turned up by the plough. They have been also found at a somewhat greater depth, as the following section shows:—Peat, 0·6 inches; sand, 0·6 inches; shingle made up of local quartzites, with many flint arrow-heads and a few flakes, 6 inches. "Flakes" are seldom or never found upon the surface, away from the "manufactory."

Note by Mr. George E. Roberts.—I have submitted the flint implements sent to me by Mr. Bryson to Mr. Christy, who recognises in the white quartz lance-head a *North-American* form, and comments upon it as one probably new to the British Islands.

On some Flint Arrow-heads from Canada. By FREDERICK ROYSTON FAIRBANK, Esq., M.D., F.A.S.L., Loc. Sec. A.S.L. for Manchester.

THE accompanying arrow-heads, which I beg to present to the Society, were ploughed up in one of the valleys along the shores of Lake Erie, Canada. They were lying in the mould a few inches from the surface, and appeared to have been covered by sediment washed by the rain and by the overflowing of a small stream from the sides of the hills skirting the valley. Similar implements are found scattered over most of the valleys in that locality. It is believed that they were formed and used by the Eries, a tribe of Indians, who, numerous in 1623 when visited by Father Joseph de la Roche d'Allyon, were exterminated in less than thirty years from that date, by constant and sanguinary strife with their kinsmen the Hurons, Petuns, and Neuters, and also with the powerful Iroquois, their common enemy. We need not, then, be surprised that the weapons which they used are found in great numbers.

The arrow-heads may be divided according to their shape into three classes.

I. Almond shaped, $1\frac{1}{2}$ inches long, $\frac{7}{8}$ inch broad, and $\frac{1}{4}$ inch thick. The whole circumference sharp and serrated.

II. Triangular, $2\frac{1}{8}$ inches long, $1\frac{1}{8}$ inch broad at the base, and $\frac{1}{4}$ inch thick. Base sharp and serrated like the sides. The angles at the base project slightly beyond the level of the centre, so as to make this edge slightly crescentic.

III. In this class a process extends backwards from the centre of the base. The angles also at the base extend slightly backwards. Size various; the largest presented is 3 inches long, $1\frac{1}{8}$ inch broad, and $\frac{1}{2}$ inch thick.

The first class resembles in general characters the implements found in the drift known as "lances de chats." The second class, besides making a good arrow-head, would make a good, useful hatchet, fastened by its apex at right angles into the end of a staff. This instrument is very carefully made, and must have required a considerable amount of dexterity in its formation, being unusually thin for its size. The process extending from the base of Class III. would enable the head to be more firmly fastened to the shaft. The projecting posterior angles would prevent the arrow being withdrawn after piercing the body. Most of the heads of this class are slightly curved, probably from the conchoidal fracture of the flint. One of them possesses a remarkable double twist. Thinking that the head was intentionally made in this form to produce rotation during the passage of the arrow through the air; I formed an arrow with a head similar to this, and found that the curve, though slight, was sufficient to cause rotation during its flight. This movement did not occur when the head was straightened.

It is interesting to compare these implements, made by a tribe so recently extinct, with those obtained from the drift of France and England. Though in some respects they are superior to the latter, their general character is the same. Like the drift implements, they are rough hewn, and exhibit no signs of friction. The makers of them may therefore be considered to have been much on a par with the inhabitants of Europe during the early and middle portions of the "Stone age."

On the Vitality of the Black Race, or the Coloured People in the United States, according to the Census. By Count OSCAR REICHENBACH.

STATISTICS reveal to us mistakes and exaggerations on both sides of the Negro question.

The increase of population within the United States has been—

	Whites.	Coloured.
From 1790—1800	.... 35	.... 32.23 per cent.
1810	.... 34	.... 37.38
1820	.... 34.3	.... 28.38
1830	.... 34.5	.... 31.44
1840	.... 34	.... 23.41
1850	.... 37	.... 26.62
1860	.... 40.4	.... 21.00

Increase of whites in the Free States from 1850-60....	42·7 per cent.
" in the Slave States " 	35·7 "

Texas first figured in 1850 with 58,558 coloured, originating from the United States, but of whom part had been imported before 1840. If we judge from the increase in newly settled parts, the number exported from the United States before 1840, amounted to 1 per cent. of the coloured in the United States in 1830. The real increase within the States was, therefore, from 1830 to 1840, 24·41 per cent. and the increase for 1850 only 26·13.

In the two first decennia, the blacks were increased by the importation of slaves and the acquisition of Louisiana. The territories obtained with the latter, appear for the first time in the census of 1810 with 45,863 coloured, or with 4·3 per cent. of the coloured in the United States in 1800. Of these 4·3 per cent., probably 123 per cent., originated from the United States as imported since the acquisition; the real increase by the acquisition amounted, therefore, to only 2 per cent. The black population had then increased, between 1800 and 1808, by importation of slaves, 3 per cent. more than between 1790 and 1800, or, taking into account the natural decrease in the increase of the blacks at that period, 8 per cent.

Florida was for the first time counted in 1830 with 16,343 coloured, or 0·9 per. cent. of the coloured in 1830. In this case Negroes had been brought from the States since 1820, and even earlier; it will be therefore, sufficient to put the natural increase within the United States for 1833 with 31·2 per cent.

The natural increase per cent., including importation from Africa, therefore, is 1790-1800, 32·23; 1810, 35·23; 1820, 28·58; 1830, 31·2; 1840, 24·41; 1850, 26·13; 1860, 21·90. Probabilities without regard to the effects of war or of complete emancipation: 1870, 22·1; 1880, 19·4 per cent.

Neither the Census bureau nor writers on this subject could see a satisfactory reason for the fluctuation observable. I explained them in a manner to which Mr. Kennedy, the superintendent of the Census bureau, assents.

Before the close of the slave trade in 1808, speculation increased the importation of slaves to 8 per cent. of the coloured people within the States, over and above the usual per centage of importation. The imported were mostly adults in full vigour—they soon produced a generation. As the black race is of early virility, this generation became prolific in the decennium after the next, and in this way an alternation of increase continued. But gradually, and as the increase of the blacks generally declines, the differences wear off.

The war will most likely diminish the increase of the blacks. If peace is restored, and if liberty and immigration should return, the whole country will become more or less settled and occupied till 1880, and whilst immigration will still augment the natural increase of the whites, the Negroes will only increase in a rapidly decreasing ratio.

For the general result is, that the increase of the whites, inclusive of immigration, has had an upward, and the increase of the blacks without slave trade a downward, tendency. In 1850, the proportion of blacks to whites was 15·69 to 84·31, in 1860 it is only 13·69 to 86·31.

In the Slave States the proportions were :—

		Whites.		Blacks.
1800	....	64·8	....	35·2
1810	....	63·3	....	36·2
1820	....	63·13	....	36·87
1830	....	62·60	....	37·40
1840	....	63·41	....	36·39
1850	....	64·6	....	35·4
1860	....	66·7	....	32·3

The ratio of the blacks increased in the South till 1830: by importation of slaves and by the acquisition of Louisiana and Florida: by a greater natural increase, and by a relative surplus of white emigration from South to North over emigration from the North and other parts to the South. After 1830 the proportions change by the decreasing fecundity of the blacks, and because, with the development of steam navigation and of railroads, and with some manufacturing industry in their train, commences a greater immigration into the South.

Excepting from the Slave States: Maryland, Delaware, Missouri, and New Mexico, (the latter possessing no slaves), the blacks increased, from 1850 to 1860, 22·6 per cent., and the whites, 29·9. In the excepted States the whites increased 63·6, the blacks, 12·3 per cent. In Missouri alone, the whites increased from 592,400 to 1,058,332, or 75·9 per cent., and the blacks only 30 per cent.; in the other named parts the blacks increased 3·9, and the slaves amongst them decreased 4·3 per cent., or fell from 96,343 to 92,128.

Increase of the Inhabitants of the Slave States from 1850-60.

	Whites.	Coloured.	Proportion of whites&coloured	Absolute in- crease, coloured.
Maryland, Delaware, and Dis.				
Columbia - - - -	26·3	3·9	1 : 1·14	7,874
Virginia - - - -	17·06	4	1 : 0·23	21,746
Kentucky - - - -	20·76	6·9	1 : 0·33	15,175
North Carolina - -	14·12	14·3	1 : 1	45,176
Tennessee - - - -	0·24	13·8	1 : 1·49	32,238
South Carolina - -	6·13	4·4	1 : 0·71	17,276
Georgia - - - -	13·42	21·3	1 : 1·54	81,978
Florida - - - -	64·70	36	1 : 0·84	22,460
Alabama - - - -	23·43	38·3	1 : 1·3	94,667
Missouri - - - -	79·64	31	1 : 0·39	28,469
Mississippi - - - -	19·68	41	1 : 2·1	126,399
Louisiana - - - -	39·98	34	1 : 0·85	88,920
Arkansas - - - -	99·88	132	1 : 1·3	63,533
Texas - - - -	173·31	209	1 : 1·2	122,270
New Mexico - - - -	34·73	—	1 : 0	—

Proportions of Whites and Coloured.

In Louisiana in 1850..	49·34 to 50·66	in 1860..	50·5 to 49·3
In Arkansas	77·6 to 22·3	"	73·3 to 23·7
In Texas	72·4 to 27·8	"	70 to 30

The more the States are situated north-east and north, the smaller is the absolute and proportional increase of the blacks. In Missouri the increase of 30 per cent. exceeds the average, but it is absolutely small, only 28,469.

The absolute and proportional increase is next smallest at the south-east; even in Florida the proportional increase of whites exceeds that of the coloured. Georgia alone shows an exception in the proportional increase; but its south-western part has been only lately become more open for cultivation, and the increase does not exceed the average. In Alabama, further west, the surplus in the proportional increase is only 1.1 to 1 of whites; the absolute increase of the coloured is, however, greater than in Georgia; for the per centage of the whole population is for 1860, in Georgia, 59.9 whites to 41.1 coloured, and in Alabama, 54.7 whites to 45.3 coloured.

The further we go south-west, the greater we find the proportional increase of coloured. In Mississippi, Arkansas, and Texas, along the Mississippi with its tributaries and bayous, and along the Gulf, we see the slave-owners occupying the fertile lands. After the pioneer comes the slaveowner—the capitalist with his human property.

In Louisiana, however, the whites increased 39.48, the coloured only 34 per cent. In this older settlement, the coloured already exceeded the whites, as 50.66 to 49.34. Or like, as in South Carolina, they had attained that maximum where the opposite movement begins the proportion became 50.8 whites to 49 coloured. A particular cause effected here rapidly, what in South Carolina, with the most illiberal of all institutions, with a small general increase, and without the commanding position at the mouth of the principal river of the country, approaches slowly; the City of New Orleans, a large commercial centre, gained alone 52,300 people, or 43,000 more than the increase of whites over coloured. There remain only two States, where the coloured exceed the whites in numbers, South Carolina and Mississippi.

Diseases, in consequence of a transport from northern to southern, from cultivated to new parts, have probably less effect on the coloured than on the white man. The Negro is prolific in thirty settled States, discipline preserves him against many dissipations, often against a close contact with the whites, and forces him to a healthy and very rarely over arduous agricultural labour. But when the population has reached a certain density, and the Negro is brought into close contact with the vices and virtues of civilisation, his increase soon stays behind that of the whites, even in the southern latitudes of the United States, where the climate is still far more adapted to the whites than to the coloured; the inferior organisation makes room for the superior. As the Indian is killed by the approach of civilisation, to which he resists in vain, so the black man perishes by that culture to which he serves as a humble instrument. To those who doubt the justice of this view, I observe, that in the climate and society of the States, liberty is still more unfavourable to the increase of coloured than slavery. The free coloured population of the Union increased :

REICHENBACH ON THE VITALITY OF THE BLACK RACE. lxix

1790—1800	....	82.28 per cent.
1810	....	72 "
1820	....	25.23 "
1830	....	30.87 "
1840	....	36.57 "
1850	....	12.28 "
1860	....	12.3 "

The great numbers of the first decennia are the result of the gradual emancipation in the Northern States, which affects the numbers till 1830. From 1850-60, the increase of the free coloured descended as low as 12.3 per cent., or 53,547.

The Ratio of the Free Coloured from 1850-60 is

	Decrease per cent.	Increase.	Decrease in number.	Increase.
Maine	2.14	—	29	
Vermont	1.25	—	9	
New Hampshire	5	—	26	
Massachusetts	—	5.93	—	538
Connecticut	—	12.14	—	934
Rhode Island	—	7.68	—	240
New York	0.13	—	64	
New Jersey	—	6.33	—	1,508
Pennsylvania	—	6.01	—	3,223
Ohio	—	41.12	—	11,367
Michigan	—	163.22	—	4,261
Indiana	—	1.4	—	168
Illinois	—	40.32	—	2,151
Wisconsin	—	3.44	—	536
Iowa	—	231.53	—	771
Kansas	—	—	—	625
Minnesota	—	—	—	239
California	—	310.77	—	2,904
Delaware	—	9.72	—	1,690
Maryland	—	12.35	—	9,020
District of Columbia	—	10.66	—	1,061
Virginia	—	6.88	—	3,456
Missouri	—	36.44	—	965
Kentucky	—	6.72	—	573
North Carolina	—	10.92	—	3,000
South Carolina	—	10.63	—	930
Tennessee	—	13.67	—	850
Georgia	—	19.41	—	568
Florida	—	—	—	
Alabama	—	19	—	423
Louisiana	—	7	—	1,176
Mississippi	16.88	—	157	
Arkansas	81.25	—	521	
Texas	10.58	—	40	

In some Southern States the free coloured had to fly before oppressive laws. In Georgia and Alabama their increase exceeded the average, in consequence of manumissions. Immigration has increased the free coloured at the north; yet here, too, the increase only amounts to 28,140, or to 14.5 per cent. In the northernmost States, the few blacks have decreased; in the State of New York, too, they have

decreased: they flock to the metropolis, and die like the insect that flies towards the fire. The gold-fields have attracted a few thousands. Two States, Ohio and Michigan, are remarkable, the increase amounts to one-third of that within the whole Union. Emigrants from the east and from the south crowded, together with manumitted and fugitive slaves, in these western middle states because other north-western states refused to admit them.

But the natural increase of the free coloured does not amount to 12·3 per cent. in 10 years; for the number of manumitted and fugitives was in the years

	1850.		1860.	
	Manumitted.	Fugitives.	Manumitted.	Fugitives.
Alabama	16	29	101	36
Arkansas	1	21	41	28
Delaware	277	26	12	12
Florida	22	18	17	11
Georgia	19	89	160	23
Kentucky	132	96	176	119
Louisiana	139	90	517	46
Maryland	493	279	1,017	113
Mississippi	6	41	182	68
Missouri	30	60	89	99
North Carolina	2	64	238	61
South Carolina	2	16	12	23
Tennessee	45	60	174	29
Texas	5	29	37	16
Virginia	218	83	277	177
District of Columbia	4	—	—	—
	1,467	1,011	3,078	803

Manumissions have been, however, in reality more numerous, for masters frequently took slaves north and set them free. But, adhering to the above data, the number of manumitted from 1850-60 has been 22,720, and of fugitives, 9,040: together, 31,790.

The whole number of emigrants to Liberia, amounted, from 1820-30, to 9302, of whom 3676 were born free; besides these, some went to the West Indies, and to British America. The whole emigration for 1850-60 did not amount to more than 6,000, or the free coloured were augmented by at least 25,790 manumitted and fugitives; there remain, therefore, at the utmost, 19,830, or 4·7 per cent. as the natural increase of the free coloured within the Union.

The slaves increased 23·23, or five times as much. That the somewhat greater portion of the free coloured live in the Northern States, contributed but little to this disparity.

With liberty, therefore, declines, not only the political, but also the numerical, the social and economical importance of the blacks. It remains, however, not less true, that like white men, the coloured would work and produce more when they were free, after they were

thrown on their own resources, were stirred by the possibility of acquiring property, and had become gradually accustomed to liberty. Their increase is restrained by physiological causes, not compressed in the narrow theory of Malthus; education, schools and political rights, add very little to the vitality of the coloured race in the society and in the climate of the States.

The mulattoes amounted in 1850 to 11·2 per cent.; comparative numbers in this direction are not yet known: we have, therefore, no positive proofs of their greater disability for propagation; but there are certainly more mulattoes amongst the free coloured than amongst the slaves. After emancipation, the now inconsiderable instinct of emigration would increase, relations and friends who preceded would, without hindrance, draw their kindred after them.

The deportation of coloured criminals to some particular region of Africa, I also consider commendable.

In conjunction with these artificial causes, the increase of the coloured would soon become very small; principally if a gradual and a conciliatory emancipation were once effected.

The following data, from the Preliminary Census Report for 1860, are of interest in respect to the increase of the free coloured: "These comparisons imply an excessive mortality amongst the free coloured, which is particularly evident in the large cities." Thus, in Boston, during the five years ending with 1859, the city registrar observes: "The number of coloured births was one less than the number of marriages, and the deaths exceeded the births in the proportion of nearly two to one." In Providence, where a very correct registry has been in operation, under the superintendence of Dr. Snow, the deaths are one in twenty-four of the coloured, and in Philadelphia, during the last six months of the census year, the new city registration gives 148 births against 306 deaths among the free coloured, Taking town and country together, however, the results are more favourable. In the State Registries of Rhode Island and Connecticut, where the distinctions of colour have been specified, the yearly deaths of the coloured and the mulattoes have generally, though not uniformly, exceeded the yearly births—a high rate of mortality, chiefly ascribed to consumption and other diseases of the respiratory system.

Some lessons can be learned from the numbers of manumitted and of fugitives. The number of the latter fell from 1011 in 1850 to 803 in 1860, whilst the slaves had increased 23 per cent. and a successful escape had become more certain by greater facilities of conveyance, and by public opinion at the north. We must therefore infer, that the treatment of slaves had become more mild, notwithstanding the passing of oppressive laws in some States of the South. In the year 1860, manumissions amounted to 115 per cent. more than in 1850, whilst the slaves had increased only 23 per cent.

The statistics of the two most north-eastern States, fully confirm the existence of a tendency to emancipation, independent of coercive laws imposed by section on section, and the existence of moral and economical powers, working in opposition to the passions excited by political ambition and conflict. In the year 1790 Delaware had 3,090

free, to 6,153 slaves; in 1860 there were 19,829 free to 1,798 slaves. In Maryland the decrease of slaves begins with 1810, there being 39,730 free and 107,397 slaves, against 83,492 free, and 87,189 slaves in 1860. Virginia had once entered upon this movement of emancipation, from north-east north to south and south-west. But here the decrease of 1839 was still less the cause of manumissions than of a migration of slave-owners to the west. This migration was so considerable, that the whites increased till 1840 only 6·07, and the slaves only 4·04 per cent., whilst the free coloured increased 5·28 per cent. In 1850 a normal condition returned, the whites increased 20·77, the slaves only 5·21, the free coloured 8·98 emigrants from the north took the place of departing slave-owners. In 1850 the number of slave-owners amounted to 347,525; for 1860 it has not yet been computed, but having most likely increased less than 23·2 per cent. which is the increase of slaves, and the increase of whites being as high as 33 per cent. we conclude that many of the slave-owners sold out, and that a decreasing proportion of the population has a direct interest in the existence of slavery.

Without the intervention of political commotions, and without the possibility and development of a sectional policy, slavery would have taken a course to emancipation by States.

An orderly and peaceable emancipation would cause a decrease of coloured at the north; for the coloured at the north do not naturally increase, and there would not be any more emigrants, manumitted and fugitives augmenting them; on the contrary, some would emigrate to the South, where climate, economical conditions, and society are somewhat more congenial. In fifty years, hardly any coloured would be found in the present northern States, and over the whole extent of the country their numbers would probably not amount to more than 9,000,000, a number more likely to decrease than increase from that time forward; from causes still more powerful than those operating for the transmutation of people in Ireland.

The PRESIDENT said the paper which had been read was one which the author had compiled with great care, and contained facts and deductions of the very highest importance to those who took an interest in the future of the Negro race in America. One of the evils which had frequently been pointed out as incidental to the slave population of America was the great mortality amongst the children of the African race in Virginia. This, public writers had attempted to show, was peculiar to the Negroes in the Confederate States; but the present paper has clearly demonstrated that the mortality was far greater in the Federal States, where there was absolutely no increase at all, while the Negroes, when under the protection of a master, increased twenty per cent. It was satisfactory also to know that the numbers of escaped slaves were so largely decreasing, and not from increased severity of their masters so much as from an increased affection which the Negro feels to his protectors when treated with discretion. The utter unfitness of the Negro for freedom when in juxtaposition with the European was, no doubt, the chief cause of the rapid decrease of all the Negros

north of Mason's and Dixon's line. We should, however, not forget that climate also had something to do with the matter. The 40 deg. of north latitude was, perhaps, higher than any Negro could exist in a normal condition. It was absurd to talk of Virginia as a breeding state, for that state was not nearly so well suited to the Negro constitution as the states further South. Everything would lead us to suppose that it would be better both for the Negro and for their masters that they should gradually be withdrawn from the Northern States and sent South, at least the surplus population. The European could work in some parts of Virginia, but further South the labour of the Negro was indispensable to the cultivation of the land.

Mr. ALFRED R. WALLACE said that we must not hurriedly assume that the cause of the non-increase of the Negro in the Federal States was due either to his unfitness for civilisation or from the effects of climate, as it might depend on the different relative numbers of the sexes, and he should be glad of further confirmation on this point.

Count OSCAR REICHENBACH said that he had not omitted to bear this in view, and that, as far as he had been able to discover, there was no difference in the proportion of the sexes between the Confederate and Federal States.

Mr. HUME GREENFIELD thought that there was a gradual migration of the Negro population taking place from east to west, and that Negro labour would be superseded by Europeans wherever it was possible for them to labour.

Count OSCAR REICHENBACH, in reply, said that it was impossible for him to submit all the proofs of his conclusions, but he thought they would be found in his paper. He thought that nature was gradually doing the work which the advocates for emancipation were trying to do. Where the white man can labour there will be no chance for the Negro. Should the Negroes become free, and be sent North, they would soon become entirely extinct.

ANNIVERSARY GENERAL MEETING.

JANUARY 5TH, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

THE minutes of the last General Meeting were read and confirmed.

THE TREASURER submitted the following Balance Sheet, which had been passed by the Auditors.

Balance Sheet of the Anthropological Society for the Year 1863.

Dr.	£	s.	d.	Cr.	£	s.	d.
Received 183 Annual Subscriptions at £2:2:0....	384	6	0	Paid for printing and lithography	238	5	0
A Fellow, on account of subscription	1	0	0	Stationery and binding....	23	4	6
One Fellow overpaid	0	0	0	Meetings	32	10	6
Subscriptions in arrear	63	0	0	Attendance	10	10	0
Two life compositions at £21	42	0	0	Advertisements	50	11	3
Subscriptions to Journals..	2	9	0	Postages, messengers, candles, cleaning offices, tin box, and sundry expenses	56	0	7
Donations:—				Reporting	5	15	6
Mr. Christy	£5	0		Mr. Blake's expenses to Newcastle	14	0	0
Mr. J.F. Collingwood	10	10		Still owing for printing....	155	1	3
Mr. S.E. Collingwood	5	5		Balance in favour of the Society.....	64	11	5
	20	15	0				
For copies of the President's Inaugural Address.....	1	19	6				
Average value of printed stock in hand as follows:							
Longman (Waitz) abt. 100							
Trübner (Journal) " 20							
" (Address) " 5							
	125	0	0				
	£40	10	0				
					£640	10	0

MR. C. CARTER BLAKE, Honorary Secretary, read the following Report of the Council.

FIRST ANNUAL REPORT OF THE ANTHROPOLOGICAL SOCIETY OF LONDON.

THE Council of the Anthropological Society of London have much pleasure in reporting to the Fellows of the Society that they consider the state of the Society to be satisfactory and most encouraging. The past year has been one of great anxiety to the Council, inasmuch as the scheme proposed by the original circular of the Society was so vast, that the Council at first nearly despaired of being able to carry it out in all its particulars. The Council now beg to submit a few remarks on each of the objects for which the Society was founded, and also to add some suggestions for the consideration of the Society.

Meetings. During the past year, i.e. since February 24, thirteen

ordinary meetings of the Society have been held, at which twenty-four papers have been read, consisting of the following:—

DR. JAMES HUNT, President, On the Study of Anthropology.

CAPTAIN R. F. BURTON, Vice-President, A Day among the Fans.

PROFESSOR RAIMONDI, On the Indian Tribes of Loreto, in North Peru.

R. T. GORE, Esq., On a Case of Microcephaly.

ALFRED TYLOR, Esq., On the Discovery of Supposed Human Remains in the Tool-bearing Drift of Moulin-Quignon.

DR. JULIUS SCHVARCZ, On the Permanence of Type.

C. S. WAKE, Esq., On the Relations of Man to the Lower Animals.

W. BOLLAERT, Esq., Past and Present Populations of the New World.

PROFESSOR JOHN MARSHALL, On a Case of Microcephaly.

PROFESSOR GEORGE BUSK, On the Human Remains from so-called Brick Earth, at Luton, near Chatham, contributed by the Rev. H. F. Rivers.

T. BENDYSHE, Esq., On Human Remains found at Barrington, in Cambridgeshire.

R. S. CHARNOCK, Esq., On the Science of Language.

W. WINWOOD READE, Esq., On the Bush Tribes of Equatorial Africa.

C. CARTER BLAKE, Esq., F.G.S., On Recent Evidence of the Extreme Antiquity of the Human Race.

C. CARTER BLAKE, Esq., F.G.S., Report on the Anthropological Papers read before the British Association at Newcastle.

PROFESSOR JOHN MARSHALL, F.R.S., On the Superficial Convolutions of a Microcephalic Brain.

GEORGE E. ROBERTS, Esq., and PROFESSOR BUSK, F.R.S., Note on the Opening of a Kist at Burghead.

CAPTAIN EUSTACE JACOB, Indian Tribes of Vancouver's Island.

DR. JAMES HUNT, F.S.A., Pres. A.S.L., The Negro's Place in Nature.

CLEMENTS R. MARKHAM, Esq., F.R.G.S., On Crystal Quartz Cutting Instruments of the Ancient Inhabitants of Chanduy, near Guayaquil.

GEORGE E. ROBERTS, Esq., F.A.S.L., On the Discovery of Mammalian Bone, cut and sawn by Flint Implements at Audley End, Essex.

A. BRYSON, Esq., F.G.S., On Human Remains from the Bin of Cullen (communicated by George E. Roberts, Esq., F.A.S.L.)

DR. F. ROYSTON FAIRBANK, On Flint Arrowheads from Canada.

COUNT OSCAR REICHENBACH, Vitality of the Coloured People in the United States.

The Council hope that during the next year some most important and valuable memoirs will be laid before the Society.

The discussions have been satisfactory, and many Fellows and visitors had taken part in them.

Transactions. The Council, at the early part of the year, made arrangements with Messrs. Trubner and Co. to publish the Journal of the Society in connection with the *Anthropological Review*. This has hitherto been carried out, and the Council think that the connection between the *Review* and *Journal* will soon be better understood. At first the *Journal* was printed as part of the *Review*, but the Council have now made arrangements that the *Journal* shall be paged differently, and it will then be seen for which part of this publication the Society is alone responsible. The *Journal* for the ensuing year will occupy a far larger space than it has hitherto done. An offer was made to the Council of the copyright of the *Anthropological Review*, which the Council felt it their duty to decline. The *Memoirs* have not yet been published, but a volume is now in the press. A general wish of the Fellows induced the Council to order the separate publication of the President's paper "On the Negro's Place in Nature," which will, however, again appear in the forthcoming volume of *Memoirs*.

Museum. Many valuable donations have been made to the Museum, and many other presents have been offered when a suitable place has been found for the deposit. The following gentlemen have made donations to the Museum:—James Hunt, Esq., Rev. H. F. Rivers, W. W. Reade, Esq., George Witt, Esq., Erasmus Wilson, Esq., C. Carter Blake, Esq., Dr. R. Fairbank, Captain R. F. Burton, R. T. Gore, Esq., T. Bendyshe, Esq., and A. A. Fraser, Esq.

Library. The Library now consists of more than two hundred volumes. The Council have only recently made an effort to establish a Library; but they trust ere long to have such an Anthropological Library for the use of the Fellows as has never before existed in this metropolis. The Council also beg to suggest to the Fellows that they may all have works which, comparatively valueless in themselves, would yet be of the highest value in an Anthropological Library. Donations have already been received from the following gentlemen:—James Hunt, Esq. (one hundred and eighteen volumes) T. Bendyshe, Esq., J. Jones, Esq., Professor Busk, Dr. W. Bell, M. Boucher de Perthes, the Anthropological Society of Paris, M. Paul

Broca, M. Pruner-Bey, George Tate, Esq., Professor R. Owen, M. Camille Dareste, Professor Nicolucci, Sir Charles Lyell, Dr. Hughlings Jackson, C. Carter Blake, Esq., M. D'Omalius D'Hallo, Professor Dana, the Smithsonian Institution of New York, A. Stair, Esq., David Carrington, Esq., Professor Eckhard, Hekekyan Bey, Royal Institution of Cornwall, Dr. Beke, Sir W. Jardine, Dr. Cuthbert Collingwood, the Royal Geographical Society, Imperial Academy of Science of Vienna, the Society of Antiquaries, G. McHenry, Esq., J. Frederick Collingwood, Esq., Jacob Boys, Esq., R. S. Charnock, Esq., R. T. Gore, Esq., H. G. Atkinson, Esq., M. de Quatrefages, Dr. F. C. Webb, the Upper Hesse Society für Natur und Heilkunde, Rev. W. Houghton, W. Spencer Cockings, Esq., the Royal Society of London, George Witt, Esq., Professor R. Wagner, Professor Tennant, G. E. Roberts, Esq., A. Higgins, Esq., C. von Martius, Dr. Beddoe, and G. Pouchet.

Translations. The Council are glad to report that they have printed the first volume of a translation of Waitz's *Anthropologie der Naturvölker*, and they feel that the best thanks are due to Mr. J. Frederick Collingwood, for the care and attention with which he edited this work. Mr. Collingwood has fully explained the reasons which induced the Council to select this work, and they feel it right to acquaint the Fellows of their determination during the ensuing year to issue works which shall not advocate the same opinions as those put forward by Professor Waitz. The Council are fully impressed with the necessity of their exercising a strict impartiality in selecting works for translation. The Council have entrusted the chief management of the publications of the Society to a Publishing Committee, and they feel the thanks of the Society are due to this Committee for the efficient manner in which they have discharged their duties.

It is proposed that the following works should be next undertaken by the Society:—

- Broca. *Sur l'Hybridité Animale en général, et sur l'Hybridité Humaine en particulier.* 8vo, Paris, 1860. Edited by C. Carter Blake, Esq., F.G.S., Hon. Sec. A.S.L. (In the press.)
- Pouchet. *Pluralité des Races Humaines.* 8vo, Paris, 1858. Edited by T. Bendyshe, Esq., M.A., F.A.S.L.
- Carl Vogt. *Vorlesungen über den Menschen, seine Stellung in der Schöpfung und in der Geschichte der Erde.* 8vo, Giessen, 1863. Edited by Dr. James Hunt, F.S.A., Pres. A.S.L.
- Gratiolet. *Mémoire sur les Plis Cérébraux de l'Homme et des Primates.* 4to, Paris, 1855. Edited by Dr. Tuke.

A. de Quatrefages. *Unité de l'Espèce Humaine*. 8vo, Paris, 1861.

Edited by George F. Rolph, Esq., F.A.S.L.

Dr. Theodor Waitz, Professor of Philosophy in the University of Marburg. *Anthropologie der Naturvölker*. 1861. Second part. Edited by J. Frederick Collingwood, Esq., F.G.S., F.R.S.L., Hon. Sec. A.S.L.

Gosse. *Mémoire sur les Déformations Artificielles du Crâne*. 8vo, Paris, 1855. Edited by Dr. Thurnam, F.S.A.

Retzius, Professor. The collected works of.

Committees. Two Committees have been appointed. The first to report on the terminology of Anthropological Science; and the second to report on the present state of the Anthropological Museums in Great Britain. The result of the reports will be issued to the Fellows as soon as they are known.

Societies. Arrangements have been made to exchange Transactions with the following Societies in Great Britain:—

The Royal Society.

Society of Antiquaries of London

Royal Society of Literature.

The Royal Geographical Society.

Berwickshire Naturalists' Field Club.

Philosophical and Literary Society of Leeds.

The Royal Institute of Cornwall.

The Glasgow Geological Society.

Cotteswold Naturalists' Field Club.

Literary and Philosophical Society of Liverpool.

Arrangements have been made for an exchange of publications with the following Academies and Societies, several of which have forwarded to the Society complete sets of their Proceedings and Memoirs:—

The Anthropological Society of Paris.

The Royal Academy of Sciences at Amsterdam.

The Imperial German Academy at Dresden.

The Royal Society of Victoria, Melbourne.

The Smithsonian Institute, Washington.

The Imperial Academy at St. Petersburg.

The Canadian Institute, Toronto.

The Imperial Academy of Sciences, Vienna.

The Royal Bengal Asiatic Society, Calcutta.

The Upper Hesse Society for Natural and Medical Science, Giessen.

The Physio-economical Society of Königsburg.

In the foreign department, eighteen gentlemen have been elected Honorary Fellows, thirty-five Corresponding Members, and twenty Local Secretaries. Communications have been received from nearly all of these gentlemen, expressing great interest in the work of the Society and offering to advance its objects in every way in their power.

Honorary Fellows. The Council have felt it their duty to limit the present number of Honorary Fellows to twenty-five. It is proposed, however, eventually to increase this number to forty.

Corresponding Members. Thirty-five Corresponding Members have been elected, and the Council recommend that no more than forty be elected.

Local Secretaries. Twenty-two Local Secretaries have been appointed in Great Britain, of these seven are Fellows of the Society. The Council are still anxious to increase their number, and to have their official representative in every county, and also in every large town throughout the kingdom. They will be glad to hear from gentlemen who are really anxious to promote the objects of the Society. Twenty Local Secretaries have been appointed abroad, but the Council hope during the next year that their number will be largely increased. The Council invite the assistance of the Fellows in nominating gentlemen to fill this important office in different parts of the world. The Council have not yet been able "to indicate the class of facts required," but they hope during the ensuing session to be able to do so.

Donations. Besides the valuable donations which the Society have received for the Library and Museum, they have also the pleasure of announcing the following:—Henry Christy, Esq., £5.; J. F. Collingwood, Esq., £10.; S. E. Collingwood, Esq., £5.; Henry Hotze, Esq., £5 (for the library).

Special Donations. The following sums have been received as a special fund for preparing or stuffing a specimen of male Gorilla, presented to the Society by Mr. Winwood Reade:—J. Frederick Collingwood, Esq., £5.; S. E. B. Bouverie Pusey, Esq., £5.; S. E. Collingwood, Esq., £5.; James Hunt, Esq., £1.; Charles Stenning, Esq., £1.; C. R. des Ruffières, £1.; W. Chamberlain, Esq., 5s.

The Council having made a few remarks on each of the chief objects of the Society, would now beg to invite the attention of the Fellows to the important question of Finance, which will necessarily regulate its future operations. The experience of the past year has convinced the Council, after mature and earnest consideration, that the objects of the Society cannot be fully carried out until there are

Five hundred Fellows. The Council would, therefore, suggest the desirability of not increasing the subscription or of making an entrance fee, until this number has been obtained. It will be readily seen that the objects of this Society include something more than those generally included in a scientific society, and that the expense of printing is very large. The Council are glad, however, to state that the present number of Fellows, two hundred and thirty-six, will enable them to accomplish all they have done during the past year; but they feel that the ultimate success of a Society of this sort will require a larger annual expenditure. The Council feel especially anxious to establish as soon as possible a good reference library. They also look forward with earnest hope of being able to found a reliable Anthropological Museum, and thus remove the disgrace under which this country is now suffering, that with all our colonial possessions no independent Anthropological Museum has yet been established in this Metropolis.

The Council are fully sensible of the important services which the officers of the Society have rendered during the past year, and they feel that it is their duty to again call on all the officers for renewed exertion during the ensuing year. The Council trust that the ample success which their efforts have met during the past year, will be an encouragement to the official representatives of the Council to again use their exertions to put the affairs of the Society in a permanently satisfactory state.

Signed on behalf of the Council,

JAMES HUNT, *Chairman.*

Mr. S. E. BOUVERIE PUSEY moved that the Report of Council be adopted, which was seconded by Mr. H. J. C. BEAVAN, and carried unanimously.

The PRESIDENT appointed Mr. J. REDDIE and Mr. H. J. C. BEAVAN scrutineers for the ballot, for the election of Officers and Council for 1864.

The PRESIDENT then delivered the annual address.

THE PRESIDENT'S ADDRESS.

GENTLEMEN,—A custom prevails amongst the chief scientific societies in the metropolis that the President should deliver an annual address. Believing such a course to be salutary to the well being of any society, I shall proceed to make such remarks as I think are suitable to the present occasion. The first year's existence of a scientific society is necessarily one not only of great hope, but also a period of great anxiety for those whose duty it is to see the objects of the society fully carried out.

When I addressed you at our first general meeting we had just

formed a Society, consisting of one hundred and twenty Fellows, but the plan proposed has yet to be tried before it could be decided whether the theory advanced was practicable. We shall now do well to review what we have done, with a view of seeing what still remains to be accomplished.

Every new plan is invariably met with certain objections, and our society has been no exception to this rule. We were told that our scheme was both impossible and impracticable. It was also boldly asserted that if we obtained members sufficient to carry out the objects of the Society, we could not obtain enough workers to do what was proposed. We were also told that existing societies with kindred objects could not get sufficient papers to be read at their meetings, and that our scheme must fail, from this if from no other reason. We were met with these and many other objections, frequently coming from men to whom we have a right to look both for support and encouragement; but experience has shown that these discouragements have no real existence. I will not detain you to show that each fancied defect in the constitution of our Society has been proved to be fallacious. I will merely ask you to recall what we have done as the most satisfactory answer to such objections.

We have also been obliged to hear the objects of the Society misrepresented, and have been told that we were antagonistic to existing institutions. On this point I think I shall do well to say a few words, as it might tend to put our position in a clearer light before those who have not yet really taken the trouble to inquire into the objects and aim of our society. In the first place, then, it is an erroneous idea to suppose that this Society is in any way antagonistic to any existing institution, or that there is any society in Great Britain which has ever attempted to carry out the objects for which we have united together. We are, indeed, trying to do something more than founding a new society; we are endeavouring to found a new science. We make bold to assert that no society has ever before attempted in this country to found a science of Man or Mankind. We have long had the different departments composing this science studied; but as long as they were isolated, so long could there be no real science of Mankind. The time has arrived when it has become absolutely necessary that all the different branches of science relating to man shall no longer be isolated, for we now see that it is necessary to bring all these branches together before we can make any real progress. It is our duty to use several sciences in founding our own. Just as the geologists have divided the different departments of their science into Geognosy, Palæontology, and Mineralogy, so the anthropologist sees the necessity of studying something more than Ethnology or the science of races, if he hoped to solve the problem of which that great branch of our science treats.

Many years ago the plan we have adopted would have been an impossibility. Archæology and Ethnology have hitherto been kept separate, to the great injury of both sciences. They both form an integral part of our science. We cannot be too careful to fully understand the meaning that we attach to our science, and, by so doing, we shall,

perhaps, be able to remove much of the misconception which exists respecting our objects and aims. The first attempt made to found such a science was in Paris, at the beginning of the present century; but it was a failure. It is only twenty-five years ago that a society was formed at Paris by William Edwards for the study of Ethnology. A few years later an Ethnological Society on exactly the same plan was formed in this metropolis. A similar society was, later still, formed at New York. The Ethnological Society of Paris consisted, at its height, of forty-six members. It still exists in name as one of the Paris societies, but has not published any memoirs since 1848. The London Ethnological Society, for the first two years of its existence, only consisted of twenty-one members. The second report of the Council announced that this number could not be increased. It has published altogether six volumes.

The Ethnological Society of New York consisted at one time of forty-four members. For some time it ceased to publish any Memoirs or proceedings; in 1856 a part of a volume was issued, but nothing has since appeared. Up to this time it has published two volumes.

It is now some four years ago since some zealous students of mankind became sensible of the unsatisfactory nature of existing institutions, and determined, with a wise appreciation of the vast extent of their science, to establish a society in Paris which should meet the requirements of the age, and that should help to establish a *de facto* science of man. Those who have watched the workings of this society must have become convinced that our scientific brethren in Paris have led the way to the formation of a science of man built on an extended and firm foundation. During the four years of their existence they have published nearly four volumes of Bulletins, and one volume of Memoirs. To the end of the first year there were only nineteen enrolled members, but they have been gradually increasing since then, and now we believe number nearly two hundred.* And now we come to a short year since, when we enrolled ourselves together to found a similar society in this me-

* M. Broca has kindly sent us the following details.

"We have at present one hundred and fifty-four subscribing members, liable to an annual subscription of 30 francs. These are:—112 living at Paris; 41 in the departments; 1 abroad—total, 154. When the last one, Professor Rizzetti, chief of the statistical department of Turin, was elected, the Society decided that its regulations did not preclude foreigners from becoming subscribing members; and this question, which had not previously been mooted, has been resolved very recently by a vote which took place prior to the nomination of M. Rizzetti.

"Our honorary members amount to the number of six; i.e. MM. Serres, Milne-Edwards, Boucher de Perthes, Renan, d'Avezac, and Littré.

"We have thirty-six associate and foreign members. Of these are:—England and Ireland, 14; Germany and Austria, 6; Switzerland, 4; Italy and Sicily, 2; America, 3; Spain, 1; Denmark, 1; Holland, 1; Belgium, 1; Russia, 3—36.

"We have, in fact, eighteen national correspondents, belonging for the most part to the army or the navy; and eight foreign correspondents, all established in America.

"Amongst the one hundred and twelve subscribing members living in Paris, we count eighty-four doctors of medicine.

tropolis. But the plan of our society is not a mere copy of our now sister society at Paris. On the contrary, a marked object of our society is the translation and printing of the most important works on Anthropology published on the continent. This alone is an immense and most important undertaking, and rendered it necessary that our numbers should be much larger than our sister society at Paris and than any other society which did not contemplate these important objects. We can barely yet be said to have existed one year, and we now number two hundred and thirty-six Fellows. This surely is a satisfactory beginning, and who will with such a fact again assert our undertaking to be impossible?

But the translation of foreign works is not the sole peculiarity of our Society. We contemplate the formation of an Anthropological Museum and a reference library for Anthropological students. We have barely yet commenced either of these undertakings, but yet specimens and books are gradually coming in, and by the end of another year let us trust that both our museum and our library will be in a flourishing state of existence.

On this subject I am well aware a very great difference of opinion prevails amongst men of science, and it is generally felt it is best to have no museum at all than a defective one, and that small museums are highly inconvenient, while large museums are only kept up at very great expense. These objections have been fully considered, and the council has been led to the determination to found a really useful, if not a large museum. The Anthropological Museum of Paris is perhaps the finest in the world, but this does not prevent our sister society there from also founding their own museum. Their success hitherto has been very great, and I trust we shall be able to make some exchanges with this society to our mutual advantage.

Our society have recently received the offer of a most desirable suite of apartments for a museum and library. This, if accepted, will incur a much larger annual expenditure than we now have; but if the present Fellows of the Society will individually assist to increase the number of our ranks with as little delay as possible, we should at once be able to establish our museum and library in one of the most desirable parts of London.

There is also a fourth peculiarity of our society which I should notice, and it is the plan of appointing local secretaries in different parts of the world, to act for the society in their districts in the same manner as our honorary secretaries act at home. When our plan with regard to our local secretaries is fully carried out, we shall have such a staff of officers in different parts of the world, that we shall not be long in obtaining a museum if we only give our officers permission to secure objects of importance for us. Not only will it be the duty of our local secretaries to obtain objects of interest and importance for our museum, but they will also send us an account of any new discoveries in their districts. I also trust that ere long some general questions will be sent to them on which we more particularly require information at this time. The efficacy of this plan will, of course,

very greatly depend on the gentlemen whom we appoint to these offices, and during the next year we shall be able to test this branch of our undertaking.

Having thus traced what has been done by other societies and what we propose to do, let me say a few words on the purely scientific aspects of our Society and on the position of Anthropology.

Let it, in the first place, be clearly understood that our society is not simply an Ethnological Society under another name, and that the name of our Society has a definite meaning which no amount of misrepresentation can ever take from it.

Anthropology includes every science which bears directly on the science of man or mankind, and includes Anatomy, Physiology, Psychology, Ethnography, Ethnology, Philology, History, Archæology and Palæontology as applied to man. Take either of these branches of science away, and we can no longer form a veritable science of man. But it may be asked, "Is it proposed to do the duty that is now attempted by societies that are devoted to some of the objects?" Certainly not; we only make use of these sciences so far as they will throw light on the past, the present, and the probable future of the human family. The philologist has hitherto been working in ignorance of the results of the physiologist; the historian in ignorance of the deduction of the ethnologist; and archæology and ethnography have hitherto been supposed to be two distinct sciences; while the psychologist and anatomist have had a mutual contempt for the deductions of each other. It is to remove these anomalies that we have formed ourselves together, with a determination of hearing all sides of the question, and examining the evidence of each special student in a perfectly unbiassed manner. No one who has devoted much serious attention to the study of man can doubt both the desirability and the necessity of thus bringing all the sciences relating to man together under one head. The departments may do well to go on working at their own branch, but it will greatly assist their inquiries to know of the discoveries that are making in other departments of science. Let it, therefore, be no longer said that we are wanting to split up science into different branches: for the contrary is the fact. We have seen—indeed we see clearly at this day—the injury that accrues to science from their forced separation; it is our object and desire to see them all united under one great science.

This, no doubt, is a vast scheme, and one which it will require many years to fully develope. But we see how well such a plan has answered in the Paris Anthropological Society.

M. Broca's brief and masterly summary of their labours during the last four years is already known to you, as M. Broca had the kindness to favour our official organ with a copy of this admirable address. There is, however, one important omission, and that is a detailed account of M. Broca's own communications. That *savant* has been the most active member of the society, and has contributed some of the most valuable memoirs that have been under its consideration, but with great modesty he has omitted to speak of them in his succinct summary of the labours of the society. I will only ask you to

look at the first volume of memoirs and at the four volumes of bulletins to see how well conceived the plan of the Paris Society was, and how admirable it has been carried out. Never before, indeed, has there been a society for the really scientific study of Man in all its branches. The *savants* of Paris felt that there could be no science of Man as long as ethnology was alone studied. In this country the same difficulty has been found, and our society has been created to supply this want. What rendered our society the more necessary was the vagueness attached to the word ethnology. Etymologically it means the Science of Nations, but by common usage it has been generally understood as the Science of Races. And yet one of the most learned ethnologists of the present day, Dr. R. G. Latham, declares that he has never used the word "race" in connection with Man in all his scientific writings, and professes himself unable to understand the meaning which is attached to that word. Thus we see the wonderful inconsistency of men calling themselves ethnologists, when they do not believe that such a science exists.

If ethnology means the Science of Races, then it is assuming that which yet has to be proved. Personally, I believe in the existence of races, and consequently that there is a science of ethnology; but how objectionable the word must be to those who do not believe in races can be easily conceived. In the word anthropology there is none of these gratuitous assumptions. It assumes nothing, and merely means the Science of Man or Mankind. Some men in this country have expressed themselves adverse to the introduction of what they please to call a new word in the language, and also have alleged that anthropology means exactly the same thing as ethnology. Both statements are equally erroneous. Anthropology is not a new word, nor does it mean at all the same thing as ethnology. In Germany, France, and even America, the word anthropology has long been introduced, and with exactly the same meaning which we attach to it. Indeed, I think I may affirm that there is at present not a scientific man of any eminence in either Germany, France or America who ever confuses the meaning of the two words, anthropology and ethnology. Dr. Latham, not believing in the existence of races, was obliged to give a meaning entirely his own to ethnology, and he gave a meaning equally faulty to the word anthropology. When Messrs. Nott and Gliddon, ten years ago, projected their book on the *Types of Mankind*, it was distinctly put forward as a work on "Anthropology", and it is not likely that the confusion which has hitherto reigned supreme in this country will be allowed to exist much longer. Our society has done much towards making known the true meaning to be attached to the word anthropology. A word that is wanted (even if new) always become easily and naturally acclimatised. In Paris there was no necessity to use any effort to popularise the meaning of the word; for the people have public instructors who are professors of anthropology.

During the past year we have seen how readily the public adopted what is erroneously called a new term. When it was reported that a fossil human jaw had been found at Abbeville, much public discus-

sion was excited, and it was at once asked to what branch of science ought this subject to be referred? Our society had only just come into existence, but it was at once seen that ours was the only existing society which could naturally take cognisance of such a discovery. The jaw itself was handed over to the professor of anthropology at the *Jardin des Plantes*, and the Paris Society of Anthropology, as well as ourselves, were called on to carefully consider the matter. Dr. Falconer in his letter speaks of the gentlemen whom he consulted on this subject as "both practised anthropologists", and no other word would have been suitable. The reputed fossil jaw will illustrate the necessity of our science. It belonged neither to the "Science of Races" or to "the relation of men to one another", but belonged essentially to the Science of Man. There can be no doubt, however, that up to the time this society was founded, a very vague and unsatisfactory meaning had been attached to the word anthropology. In translating it into English frequently the word ethnology was used as synonymous with anthropology. I will give one instance, which is a remarkable warning to others to avoid similar mistakes for the future. At the British Association at Manchester in 1861, a paper was read "On the Acclimatisation of Man", in which the following passage occurs, as a translation from M. Boudin. "The problem is certainly one of the most important in the science of ethnology". Now, if we turn to the original, we find the word *anthropologie* has been most unwarrantably translated ethnology. The only palliation I can offer for such a course is the fact that at the time this paper was read the word anthropology was not understood in this country. No one, however, is now more conscious of his error than the writer of that paper: for now some persons suppose that he thinks the question of the acclimatisation of man "is one of the most important in the science of ethnology," as he then asserted. But being myself the guilty person, I beg openly to acknowledge my error, and candidly assert that the question of the acclimatisation of man is not an ethnological subject, but essentially a question belonging to anthropology. It is not a question of races, but a question relating to mankind, whether composed of species, races, or varieties. In fact, there is, perhaps, no question in anthropology which requires so many different branches of science for its elucidation as the acclimatisation of man. 1. We must know the physiological changes which are produced by different climates. 2. The laws of hygiene or health. 3. Vital statistics. 4. The laws regulating the distribution of disease. 5. The influence of races in resisting disease; and, lastly, we require to know whether the conclusions which are derived from an investigation of the foregoing are supported by history, philology, and archæology.

This is only one illustration of very many which could be adduced to show that we can never have a science of mankind until we look on Man from every point of view.

Lord Stanhope, last year in his address to the Literary Fund, called attention to the large increase of scientific societies in this metropolis, which appeared to him to be a cause of regret. Now be this as it

may, there can be no doubt that the students of each science are the best judges as to what is required for the progress of their science. Our society aims rather at decreasing than increasing the number of scientific societies. Both the Ethnological and Philological Societies may perhaps eventually find that they can best advance their science in union with ourselves. Both these sciences form an integral part of the science of anthropology; but it must be left to time to decide whether those sciences can be best prosecuted under one head or separately. As Waitz well says, "There remains, unfortunately, a considerable gap in our knowledge; for these different branches of science stand yet side by side, unconnected, while they should by combination assist each other." But as Lord Stanhope has justly observed, it is the spirit of combination that is required in this country. The time will no doubt come when the ethnologists especially will see that a union with ourselves will be absolutely necessary if any advance is to be made in their science. On this point I cannot do better than quote from the philosophical address delivered to our sister society at Paris, by its accomplished Secretary-General, M. Paul Broca. He says: "To describe and classify the actual races, to point out their analogies and differences, to study their aptitudes and manners, to determine their filiation by blood and language, is no doubt to run over much ground in the field of anthropology; but there remain higher and more general questions. All the human races, in spite of their diversity, form a great whole, a great harmonic group; and it is important to examine the group in its *ensemble*, to determine its position in the series of beings, its relations with other groups of nature, its common characters, whether in the anatomical and physiological or in the intellectual order. It is not less necessary to study the laws which preside in maintaining or changing these characters, to appreciate the actions of external conditions, the changes of climate, the phenomena of hereditary transmission, and the extreme influences of consanguinity and ethnic intermixtures—these are great and manifold questions within the sphere of natural history and general biology. Finally, in a more elevated sphere, and without venturing to attain the regions which conceal the problem of origin (a fascinating and perhaps insoluble problem), our science eagerly searches for the first traces of man's appearance on the earth, it studies the most ancient remains of his industry, and gradually descending from incalculably remote epochs towards the historical period, it follows humanity in its slow evolution, in the successive stages of its progress, in its inventions, in its struggles with the organic world, and its conquests over nature."

It is to this combination that all our energies are directed, and ere long all earnest scientific ethnologists will, I trust, feel it their duty to aid us. We have witnessed the little progress that the Science of Man has made for want of this combination, and none can be more conscious of this than those who have studied ethnology. Indeed, as anthropologists we rejoice to see that our sister Ethnological society has elected as her President a gentleman who is so well known as a zealous anthropologist, and whose labours all tend to unite together

those twin brothers, Archæology and Ethnography. I need not say how we should welcome to our ranks all those who are really anxious for the progress of anthropological science. In the meantime our duty is clear; we have a great object before us in thus endeavouring to unite the various branches of science, and we can enter into no scheme which would prevent us from fully and carefully carrying them out in all its details. I cannot but trust and hope that the real friends of science will look at this matter from a purely scientific stand point, and that they will alone be influenced by what they believe to be the best for the progress of science. Whether or not the ethnologists of the country all join us, I hope we shall continue to look at their labours in no envious spirit, but rather that we should look at the progress and popularity of their science as the surest sign that our own science is destined to arrive at far more important truths, and that it will also eventually become far more popular.

Some have supposed that we merely entertain some philosophical speculations, and that the result of our inquiries can have no practical bearing on humanity. I need not waste time in showing how groundless such a charge is; for it appears to me that there is no science whose deductions can have a greater practical bearing on the well-being of humanity at large than the conclusions arrived at by Anthropologists.

Those who have narrowly watched, as I have done, the popular literature on Anthropology during the past year, must have become fully convinced of the absolute necessity of our Society. Many writers have, during the past year, complained, and not without reason, of the partial inductions which have been made by the ethnologist and the archæologist when speaking of the antiquity of man, and who have entirely ignored the teaching of the physiologist and the philologist, as well as the ancient historian. Why, they ask justly, should the evidence of ancient history be entirely passed over in silence? Why should it not have its true value in our deductions? These and similar questions have been put by popular writers on this subject, and they merit our special consideration. It has been well pointed out by a popular writer on this subject, that the deductions of the ethnologist are quite worthless when taken alone, and that we must especially interrogate physiology. This writer* puts the following questions:—

“How are the characters and physical properties of either parent, or both, transmitted to the child? How far does family likeness extend, and within what limits is it confined? What determines the sex, the full-grown stature, the complexion, and the whole physical constitution of the human offspring? Plainly it is not the choice of the parents. Is it a direct act of Divine sovereignty? Is it some law of physical sequence? If so, its nature and mode of operation are evidently quite unknown. Again, how far does the influence of climate upon the human frame extend? Does it increase in succes-

* Scientific Theories of the Origin of Man. Reprinted from the *Record* newspaper, 1863, p. 15.

sive generations or diminish? Has it power to assimilate within certain limits of natural congruity, being wholly powerless beyond them? or does it act by a simple graduation? In this case, does it affect most powerfully those who approach to the required type, or those who deviate most from it? Or does it act most upon those who are neither so unlike as to escape the range of its influence, and are thus incapable of acclimatisation, nor so nearly suited to the climate that little change is required to produce a perfect harmony? Once more, how far do famine and plenty, a scanty or a generous diet, habits of order and subjection to moral law, or a life barbarous and almost animal in its nature, influence the features and brain, and affect, in course of time, the very form of the skull, degrading it below the normal type of intelligent manhood? These are only a few of the questions which need to be answered, and answered with the greatest possible exactness, before any merely scientific theory on the diversity or unity of the human race can rise from a conjecture, more or less plausible, into a character of a fixed and demonstrable conclusion, drawn from the data of natural science alone."

Now to such questions as these we are bound to return a rational answer. We must no longer go on with reckless general assertions, but remember that all true science is built on the gradual accumulation of well ascertained facts. Any generalisation made from ethnology alone cannot have a scientific value. The same may be said of the deductions of the physiologist, the psychologist, the philologist, the historian, or the archæologist.

I cannot impress too strongly on the Society my conviction that it is just this combination which is at this time required, and of the necessity of hearing and carefully examining the evidence derived from different branches of science before we come to any conclusion on the origin and development of humanity.

If I were to pass under review what we have done to carry out the principles of such an undertaking as I have suggested, I feel it would not be entirely satisfactory to my own feelings. It cannot be denied that we have regularly issued to the Fellows a quarterly journal entirely devoted to the science of man. This is, I believe, the first instance of a quarterly journal ever having been issued entirely devoted to such a subject. So far we have cause for satisfaction, and I believe that this periodical has done a considerable amount of good in removing erroneous impressions, and in its columns are deposited many useful scientific facts of immense value to the future inquirer. Nor has its influence been confined to our own country, for not only has it been widely circulated throughout Europe, but in the antipodes its contents have been freely criticised. We are glad to find that scientific men of all countries are contributors to its pages, showing that it is devoted to no clique or party, but that it is the independent organ for all those who seek the truth. While, however, we patronise this quarterly, we are in no way responsible for its contents or its conduct. Our Journal is appended to it, and this is merely a mutual convenience which may cease any day, and which in no way implicates

the Society. Our Journal will, during this year, be very much larger, and perhaps ultimately absorb the whole publication. Be this as it may, none can doubt the value of the publication during the past year.

With regard to our meetings, we have also not yet been able to see, in all its particulars, the advantages of our plan; but those who have attended our meetings can judge of the large amount of interesting matter that has been elicited in our discussions, and of which, I am sorry to say, in many cases only an imperfect record exists. I shall not give a detailed examination of the various papers and Memoirs which have been read before us during the past year; but there is one class of papers which so well illustrates the necessity for our society, that I must briefly touch on them—I allude to the cases of microcephalic brains, which have been brought under our consideration. Our speculators on the origin of humanity have, nearly without exception, passed over the evidence to be derived from a study of these arrested brain-growths in nearly complete silence. Until we were established there was no society which could take cognisance of such cases. I will not now dwell on the deductions that may be made, because that is a matter of controversy, but express my satisfaction that we should have been the means of bringing to light one of the smallest cases of arrested brain-growth ever recorded, and the example set by our respected Fellow, Mr. R. T. Gore, has been the means of bringing to light other nearly equally interesting cases from other observers.

Twenty-four distinct papers have been read during the past year, and nearly the whole have been, or are now, printing. So far, then, there has been no indication of a want of material, perhaps rather the reverse is the case; but I hope to see during the ensuing year a larger number of carefully-prepared Memoirs than we have had during the past session. I have witnessed with much pleasure the gradual increase of workers which has taken place during the time we have been founded. I trust to see that number largely increased.

We must bear in mind that we are all students, and that each may do much good by devoting his attention to some special branch of inquiry. It is frequently asserted that the scientific conclusions of some inquirers differ from the conclusions of some other man who is presumed to be an "authority" on a special subject. But we shall do well to remember that in science we cannot recognise authority; for science must be founded on facts, and not on authorities, however great or venerable. It is only recently that we in England have already recognised this principle, and in this we are far behind our scientific brethren in France or Germany. It was only the other day I saw an allusion to our labours in a Dutch periodical, and the writer remarks, "We welcome this programme the more gladly, as it testifies that, *even in England*, they will no longer accept unscientific replies to anthropological questions." I trust the truth of this satire will now exist no longer.

I have thought it best to confine my remarks to the objects of our Society, and not to touch at length on the progress of Anthropology

in different parts of the world. I will simply remark, that never was there a year in which so many popular works on Anthropology were published. In this country, besides Waitz, we have had Sir C. Lyell's *Antiquity of Man*, Professor Huxley's *Man's Place in Nature*, Wilson's *Pre-Historic Man*, Jackson's *Ethnology and Phrenology*, and Brace's *Manual of Ethnography*, falsely called *Manual of Ethnology*. African Anthropology has been enriched with *Wanderings in West Africa*, Burton's *Abbeokuta*, Reade's *Savage Africa*, and Speke's *Journal*. These are a few of the most important works which have distinguished the year, besides our own *Journal*, and a volume of *Transactions* published by the Ethnological Society. In France there have been many important Memoirs read before the Paris Anthropological Society; but perhaps the most interesting and important is an elaborate *Memoir on the Human Hair*, by our Honorary Fellow, M. Pruner-Bey. I am glad to be able to announce that this important paper is about to appear at length in the next number of the *Anthropological Review*. I need not dwell on the other labours of the Paris Society, because they must already be known to the Fellows. We are also much indebted to our zealous secretary for the detailed account which he gave us of M. Desnoyers' discovery respecting the very great antiquity of man.

In Germany a fourth volume of Waitz's *Anthropologie der Naturvölker* has just appeared, while the learned author informs me that he is busily engaged on the fifth and concluding volume. M. Carl Vogt has issued a work, entitled *Vorlesungen über der Menschen, seine Stellung in der Schöpfung und in der Geschichte der Erde*. Professor Pott has given a work, entitled *Anti-Kaulen, oder Mythische Vorstellungen vom Ursprunge der Völker und Sprachen nebst Beurtheilung der zwei sprachwissenschaftlichen Abhandlungen Heinrich v. Ewald's*; while M. Welcker and Professor Lucae have published valuable Memoirs. In Italy Dr. Nicolucci has published two interesting Memoirs, and the savants of Sweden are just uniting to bring out an edition of the lamented Retzius' collected works.

I trust that during the year a translation of Vogt will be delivered to the Fellows, together with M. Broca's admirable work *On Human Hybridity*, and M. Pouchet's clever little work *On the Plurality of Human Races*.

Ere long, also, I hope to see the remaining volumes of Dr. Waitz's work given to the Society, under my friend Mr. Collingwood's painstaking editorship. It would also be most desirable to have an English version of Retzius's works, when we can find a gentleman willing and able to undertake its translation from the Swedish.

During the past year very many and entirely different subjects have been brought under our consideration. On another occasion I may perhaps review minutely what we have done. We have had one adjourned meeting, to discuss a paper, which I brought forward, on the Negro. I am glad to be able to announce that all the objections which were raised to this paper will be printed at length in the next number of the *Journal*. Some bigoted or dishonest writers in the public press have attempted to identify my opinions on the subject with those of the

Society. I need not attempt to reply to such a contemptible and groundless charge. But lest such an impression should exist in the mind of any intelligent person, I would just recall your attention to the fact that during the past year our Society has issued one of the most learned and forcible books ever published in this country on the other side of the question. Although, on some material points I differ very considerably from the views of Professor Waitz, I am none the less sensible of the value of his work to Anthropological students. I hope in future that the council will be guided entirely, in their selection of works for translation, by a desire to introduce useful books to the student, quite irrespectively of the views of the author. I trust, however, that no man of education will ever think of confounding the works published by the Society, or any paper read before us, as being in any way the view of the Society. If such opinions generally prevailed, there would be an end to all scientific discussion and liberty of thought. Such views, therefore, must either be the result of ignorance or of wilful misrepresentation; and when we see who makes these charges, or where they are made, we shall be enabled to judge from which cause they proceed.

I am glad to say that during the past year we have not wasted our time in discussing the origin of mankind. That subject is not ripe for our discussion, nor will it perhaps be for many years to come. There are very many subjects of the highest importance which we must decide before that problem can be solved.

There appears to me to be some subject which it would be well to occupy our attention during the ensuing session. In the first place, our knowledge of the geographical distribution of the ancient races of Man seems to me to be very defective, and I will suggest a profitable subject of inquiry—the Ethnography of the known world at the time of Herodotus. Is the distribution of the chief races the same now as then? Such a problem can alone be solved by the different branches of science which compose the great science of Anthropology. Let some Fellow also do for England what M. Paul Broca has done so well for France, and write us a Memoir on the Ethnology of England,—a subject on which, strange to say, we have at present no reliable information. At the beginning of the last session we appointed a committee to report on the terminology of Anthropological Science, but no report has been rendered, and it must be a matter of serious consideration with the next council of the Society whether it will be of any utility again to appoint such a committee. I would suggest that it would be desirable, if we again appoint a committee, that we should invite our sister Society in Paris to aid us in this important matter. As our parent society we have a right to look to her for aid, and I am sure we shall not look in vain; for during the past year we have had too many proofs of the good fellowship and friendly feeling of all the officers of that Society, as well as from other members. M. Quatrefages, the accomplished President, has kindly made frequent communications of his scientific labours, while M. Paul Broca and M. Pruner-Bey have most obligingly given us the continual benefit of their valuable services. We feel

that great benefit will accrue to science by thus working together, and eventually I hope we shall be able to make arrangements for an exchange of the use of our wood-cuts and lithographic plates.

And now, gentlemen, I have taken up so much of your time that I must not detain you much longer. I have briefly traced our past history, and what is the future in store for us? This will entirely depend on ourselves. If I do not mistake the signs of the times, however, a glorious future awaits our Society. The rapid increase of our numbers shows how well our objects are appreciated, and gives hope that at last the science of mankind shall indeed be studied with zeal and earnestness. The Geological Society, on which we have formed our rules, gives us a noble example of what may be done by real and zealous workers. Is there anything to prevent the Anthropological from becoming at least equal to the Geological Society? On the contrary, our science must ultimately be not only the most interesting, but also the most important. It is frequently the habit of scientific men to exaggerate the importance of their own special study to the detriment of other branches of knowledge; but do I exaggerate when I say that the fate of nations depends on a true appreciation of the science of anthropology? Are the causes which have overthrown the greatest of nations not to be resolved by the laws regulating the intermixture of the races of man? Does not the success of our colonisation depend on the deductions of our science? Is not the composition of harmonic nations entirely a question of race? Is not the wicked war now going on in America caused by an ignorance of our science? These and a host of other questions must ultimately be resolved by inductive science. The dreams of philosophers or of fanatics must all disappear before the light of true science. I well know we are far, very far, from being able to give decided answers to any of the questions I have suggested. But we see that all these questions must be resolved by the students of mankind. France has her professors of anthropology, and why not England? Geologists give medals to their successful students, and why should not anthropologists do the same? The Royal Society has its lectureships, and what is wanted but a good example, that we should have here established lectureships for the different branches of our science?

Some may consider these views visionary, but surely what is possible with one society is also possible for another. All we want now are workers who are conscious of the magnitude and importance of their science, and who are determined to go on with their work of accumulating facts and making deductions simply from these facts, entirely regardless of what conclusions they may arrive at.

For myself, I am but too conscious of my entire inability properly to discharge the high office of President to such an important Society. My time and talents—such as they are—are, however, at the entire disposal of the Fellows of the Society, in any capacity in which they may be found most useful, until this Society is in the flourishing state desired by its best friends.

Mr. S. E. COLLINGWOOD moved, "That the thanks of the Society be given to the President for his Address, and that it be printed;" which was seconded by Mr. TRAVERS, and carried unanimously.

Mr. G. WITT moved, "That the thanks of the Society be given to the retiring members of Council: Edward Pick, Esq., and Dr. J. Hughlings Jackson, for their services in the past year;" which was seconded by Dr. LISTER, and carried unanimously.

Mr. JAMES REDDIE moved, "That the thanks of the Society be given the President, Vice-Presidents, Officers, and Council for their services in the past year." He congratulated the Society on its present position, and called especial attention to the modest manner in which Dr. Hunt had alluded to his own labours, which had tended so materially to the service of the Society. He hoped that care would be taken that the *Anthropological Review*, which in one sense might be regarded as the child of the Society, although it was out in the world by itself, would be made as uniform in appearance as possible with the publications of the Society. He had much pleasure in moving this resolution, which, he felt certain, would be unanimously accepted.

Mr. J. SMITH seconded the resolution, which was carried unanimously. Dr. HUNT, Mr. CARTER BLAKE, Mr. J. FRED. COLLINGWOOD, Mr. A. HIGGINS, and Mr. R. S. CHARNOCK, briefly acknowledged the honour conferred upon them.

Mr. BENDYSHE moved, "That the thanks of the Society be given to the Auditors," which was seconded by Mr. A. RAMSAY, Jun., and carried unanimously.

Mr. S. E. COLLINGWOOD, on the part of Mr. G. BYHAM and himself, briefly acknowledged the vote.

The Scrutineers brought up their Report, when it was announced that the following gentlemen were elected Officers and Council for the ensuing year:—*President*, Dr. James Hunt, F.S.A. *Vice-Presidents*, Captain Richard F. Burton; Sir Charles Nicholson, Bart.; the Duke of Roussillon. *Secretaries*, C. Carter Blake, Esq.; J. F. Collingwood, Esq. *Foreign Secretary*, Alfred Higgins, Esq. *Treasurer*, Richard S. Charnock, Esq. *Councillors*, T. Bendyshe, Esq.; W. Bollaert, Esq.; S. E. Collingwood, Esq.; Dr. George D. Gibb; H. Hotze, Esq.; J. Norman Lockyer, Esq.; S. E. Bouverie Pusey, Esq.; W. Winwood Reade, Esq.; George E. Roberts, Esq.; C. R. des Ruffières, Esq.; Dr. Berthold Seemann; W. Travers, Esq.; W. S. W. Vaux, Esq.; George Witt, Esq., F.R.S.

Mr. L. OWEN PIKE moved "That the thanks of the Society be given to the Scrutineers;" which was seconded by Mr. PETHERICK, and carried unanimously.

Mr. H. J. C. BEAVAN returned thanks.

Mr. CARTER BLAKE wished to call the attention of the Society to the state of the library, which now contained many most valuable works, and he hoped when a catalogue should be prepared, and when all the books which were in the library were properly stamped, the Fellows would enjoy the privilege of borrowing books under certain regulations. The especial object of his present remarks, however, was

to call the attention of the Society to the most valuable donation which Dr. Hunt had presented, consisting of 119 volumes, chiefly on African travel. This would form the nucleus of a library which would eventually prove of the highest value to Fellows, and he had much pleasure in moving "That the best thanks of the Society be given to Dr. Hunt for the liberal and valuable donation which he has presented to the Society's library."

Mr. G. WITT seconded the motion, which was carried by acclamation.

Dr. HUNT, after thanking the Society, said that he had long felt the necessity that anthropologists should possess a good reference library, and that it gave him great pleasure to assist in its formation. He hoped that other members would feel an equal interest in the subject. The Royal Society of Literature had offered a desirable suite of apartments for a library and museum, and he hoped that the increase of members during the next few months would enable the Council to accept this offer.

The PRESIDENT then declared the proceedings to be at an end.

JANUARY 19TH, 1864.

JAMES HUNT, Esq., PRESIDENT, IN THE CHAIR.

The minutes of the previous meeting were read and confirmed.

The following Fellows were elected: William Easse, Esq.; Henry Butler, Esq.; Philip Lybbe Powys Lybbe, Esq., M.P.; Robert C. Marsden, Esq.

The Extinction of Races. By RICHARD LEE, B.A., F.A.S.L., M.R.C.S.

The rapid disappearance of aboriginal tribes before the advance of civilisation is one of the many remarkable incidents of the present age. In every new country, from America to New Zealand, from Freemantle to Honolulu, it is observable, and seems to be a necessary result of an approximation of different races, peculiar, however, in degree, at least, to this portion of the world's history. It has been estimated that the Hawaiians have been reduced as much as eighty-five per cent. during the last hundred years. The natives of Tasmania are almost, if not quite, extinct. The Maories are passing away at the rate of about twenty-five per cent. every fourteen years, and in Australia, as in America, whole tribes have disappeared before the advance of the white man.

Looking back into history, it would appear that such circumstances have not always been the consequence even of enduring oppression, still less of civilisation. Two millions of the Coptic race still testify to the inability of the ancient Eastern powers to destroy all remnants of the people they subdued. Egypt numbers a vast crowd of the lineal descendants of those men who fell before the Persian tyrant two thousand years ago; and, to come nearer home, the Celts, the Britons,

and the ancient Gauls, have a large host of worthy representatives upon their own soil.

Nowhere has the disappearance of a native race been more complete in modern times than in Tasmania, and although, no doubt, the most relentless butcheries were at one time practised in that colony, yet, for many years past, the aborigines have been under the immediate protection of the government. It would be impossible now to determine accurately the extent of the loss that has taken place, but it may be reached approximatively. In 1815 the aborigines of Van Diemen's Land were estimated at 5000, and this was probably a lower calculation than might have been justified. Five years later so great was the slaughter practised by the early settlers, that this number had become reduced to 340, of whom 160 were females. In 1831, the year in which they were invited to place themselves under the protection of the local authorities, after these same authorities had sought and failed to destroy them by a military force, there were but 196; and their numbers continued as rapidly to decline. In that year fifty-four were sent to the establishment devoted to them at Flinder's Island; in 1832 sixty-three more gave themselves up; and in the three following years eighty-nine were added to the group. This comprised the native aboriginal population of the island at the time. But during the five years thus included, seventy-three had died on the station, so that government protection did not lessen the mortality. In 1847 the whole of the party were removed from Flinder's Island to an old convict station on the shores of D'Entrecasteaux's Channel, to the south of Hobart Town; there were then only forty-seven, and of those but thirteen men. In 1855 the numbers were further reduced, and the once numerous tribes of Van Diemen's Land had only sixteen representatives. Of these, two were sixteen years of age, and the rest varied from thirty to fifty-five.

This remarkable result cannot be attributed altogether to the low condition of the Tasmanian Aborigines, or to the cruel treatment of the European settlers. A similar process of extinction is even now taking place in New Zealand, notwithstanding the thinness of the white population, and the superior character of the Maori race; and so steadily is this going on, that before the end of another hundred years the aboriginal New Zealander will, in all probability, have become extinct.

When missionaries first went out to New Zealand, the native population was variously estimated by them at from 100,000 to 140,000; but these estimates were necessarily made under considerable difficulties and probably never exceeded the truth. The first official census was not taken till 1858, and in that year the number was found to be hardly more than 56,000.

From this it is evident that there are some causes in operation to produce an extinction of certain races which at present cannot be clearly defined. The average mortality among them is greater than among most civilised nations; but in addition to that, and to the diminished reproduction of the species, there has been shown to be an inequality of the sexes among the adult population in an inverse ratio to that usually obtaining.

Out of several tribes, numbering nearly 40,000 persons, it has been ascertained that the proportion of males to females under fourteen years of age, was as 5·974 to 4·860, and above fourteen it was as 16·443 to 11·989.

These facts open up an interesting field for inquiry, both to the philanthropist and the philosopher. It is startling to observe the sudden disappearance before an advance of civilisation of people who have multiplied and lived for ages upon lands now for the first time occupied by the white man. Nor is the circumstance divested of any of its interest, when it is made tolerably evident that other than purely artificial causes are operating to produce such a result. The introduction among aboriginal races of some European diseases, and of injurious habits—intemperance and the like—as well as a directly increased mortality, due to an antagonism between the white and the coloured population, are among the leading artificial causes; but none of these will account for the paradox that exists in respect to the inequality of the sexes, the unusual diminution of females, and the increase to such an enormous extent of unproductive marriages. For an explanation of all this we must look deeper; and it is more than a question whether at the present time anything like a satisfactory explanation can be offered.

There is, however, one condition into which native tribes are brought through contact with civilisation that has hitherto been overlooked, but which the writer has observed to be frequently productive of fatal effects among tribes where the observations have been chiefly made. It is well known, for example, that the Australian aborigines, although constantly exposed to the weather, are exceedingly susceptible to cold. Before a southerly wind they crouch under every cover they can find, the insufficient quality, as well as quantity of their food, offering no protection to their system against the vicissitudes of temperature, which, in that part of the world, are often very great. The influx of Europeans has enabled them, though to a limited degree, to procure articles of clothing or blankets, the value of which they at times thoroughly appreciate. But the first warm day sees all these things thrown aside, and it not unfrequently happens that fever and other diseases are actually produced through the careless use or disuse of warm coverings. Deaths arising from this cause are now of frequent occurrence; the system which, in its natural state, was prone to suffer from changes of temperature, being still more liable to injury when those changes are rendered greater through the improper use of clothes.

As an almost abstract question for discussion, it may be suggested whether this disappearance of aboriginal tribes may be taken as a type of what might happen at a future period of the world's history—at that period which some have even now conceived to be probable, when the present population shall have to give place to an order of beings superior to the now dominant race of mankind in all those faculties and endowments which most tend to elevate humanity. Glancing over the surface of the globe, and pausing for a moment to contemplate the mighty changes that have been wrought during the

last half century in the population of different regions, such a suggestion may not seem so very improbable. Almost everywhere, save in the older and more civilised nations, we see, as it were, one world of people passing off the stage, and another, and a more highly developed world coming on. In a few years the surface of the earth will be utterly altered; whole races, which now rule supreme over immense tracks, will have passed away for ever, and civilisation will turn to better account the lands that have so long been the undisturbed home of the "black fellow;" a new era will be inaugurated, and human responsibilities vastly multiplied.

Such being a process now in course of completion, the question proposed becomes at least an interesting one. Europe is now the centre from which this flood of civilised life is overspreading the globe, and our own Anglo-Saxon race constitutes one of the chief elements which are sweeping before them every vestige of earlier inhabitants. Such a world-wide reform has never before occurred, but may it not, at some far distant date, occur again? Europe, now pre-eminent in all the attainments of man—the home and the cradle of the noblest arts and the profoundest sciences, may have for her destiny to repopulate the globe, and then to tarry in her onward career. It may be the lot of nations now springing into existence at the antipodes, to outstrip her in the pursuit of knowledge, and when ages shall have passed away, to supply, in their turn, a nobler race, a more perfect humanity, to the lands which now rank foremost in civilisation. The New Zealand offspring of the imagination of our great essayist may be no unreal creation of the imagination, and England may yet be indebted to her descendants in the South for a people who shall as far surpass her present occupants as the civilised Englishman of this day excels the half barbarous Maori.

To speculate upon this, however, is of little value so far as affects the attainment of any satisfactory conclusion. Perhaps it is a pity to spoil so fine a field for the exercise of the imagination, to break the spell which builds up in the mind attractive hypotheses of the world's future history, and to destroy what might serve as an analogy in thus reasoning. But, viewed as a bare fact, and taking it in connexion with what we know of the previous history of man from earliest ages to the present time, there appears nothing, I think, in this extinction of races to justify us in regarding it as a type of anything similar to follow at some remote period in the future.

Between the white and the coloured populations of which we speak there are not even degrees of civilisation. The man who now wanders free through the unknown wilds of Australia represents nothing. Not only has he not advanced in moral development since the first formation of his species, but he has actually retrograded. There are not even the traditions of past renown among his ancestors to arouse those inspiring emotions which should stimulate him to preserve the existence and identity of his race; and even where, as in the Maori or Polynesian, a certain pride of birth and dignity still cling, there is no bond, certainly not one of nationality, to secure them from the inevitable effects which greater moral power, under such circum-

stances, seems intended to produce. Rather, then, we must regard it as only an illustration of humanity, in its crudest form, shrinking and passing away before a phase of humanity enlightened with intelligence, and endowed with vast intellectual superiority. It is the lesser light destroying the darkness, and though a greater brilliancy should ages hence appear, it will still continue to burn, mellowed and made more luminous through the accumulated experiences of time.

*On the Extinction of Races.** By T. BENDYSHE, Esq., M.A., F.A.S.L.

THE continent of America has now been discovered about four hundred years. The groups of the islands of Polynesia or Oceania about two hundred years. The continent of Australia, and the neighbouring islands of New Zealand, Tasmania, etc., about a century.

Most, if not all of these countries, on their discovery by the Europeans, contained a larger number of aboriginal inhabitants than they do at present. Hence it has been concluded, with, I think, some unphilosophical haste, that the numbers of the aborigines must in all these countries continue to decline until none of them are left. And even before we can call the extinction of races a fact, theories of various kinds have been started to account for what has never yet taken place, at least in a sufficient number of instances to determine whether it is an exceptional or a strictly natural phenomenon.

There can be no reason for assuming in the outset that the laws of population are different in different parts of the globe. This may seem an unnecessary truism; but had it been borne in mind by many writers on this subject, much idle speculation would have been avoided. We must not, however, be too hard upon the earlier observers of the aborigines.

It is only recently that the laws of population have been understood or even studied in our own country. The treatise of Malthus, from the publication of which are to be dated all sound views upon the subject, appeared in 1798. He showed that population has a tendency to increase in a geometrical ratio; and the obstacles which prevent it from actually so increasing, except what he calls moral restraint, which is peculiar to civilised nations, occur equally in all parts of the world. These may be summed up under the heads of promiscuous intercourse, artificial abortion, infanticide, wars, diseases and poverty. In every country some of these checks are with more or less force in constant operation; yet, notwithstanding their general prevalence, there are few states in which there is not a constant effort of the population to increase beyond the means of subsistence. During such seasons as these, the discouragements to marriage and the difficulties of rearing a family are so great, that population is nearly at a stand. After some time, however, either from the actual diminution of the population, or the increase of the means of subsistence, the restraints to population are in some degree lessened, and after a short period again the same retrograde and progressive movements are repeated. This sort of oscillation, says he, will not

* Perhaps the title ought rather to be the Extinction of Populations.

probably be obvious to common view, and it may be difficult even for the most attentive observer to calculate its periods.

"In savage life it is little to be doubted that similar oscillations take place. When population has increased nearly to the utmost limits of the food, all the preventive and positive checks will naturally operate with increased force. Vicious habits with respect to the sex will be more general, the exposing of children more frequent, and both the probability and fatality of wars and epidemics considerably greater; and these causes will probably continue their operation till the population is sunk below the level of the food, and then the return to comparative plenty will again produce an increase, and, after a certain period, its further progress will again be checked by the same causes."

The correctness of the Malthusian theory is now so universally admitted, that I shall not waste any more time in its enunciation. The question we have to consider is whether it applies in full force to those parts of the world where the aborigines appear to be dying out, and who therefore may be merely undergoing one of those retrograde periods of numerical diminution which are common to all races of mankind, or whether there is some particular cause superadded to those enumerated by Malthus, which will continue to operate until its victims cease to exist, and the exact nature of which it is at present impossible to explain.

The latter opinion is the one perhaps most commonly held, and the particular cause is generally asserted to be "the will of Providence." Thus, Professor Waitz, in the translation made by our learned secretary, Mr. Collingwood, says,* "According to the teaching of the American school, the higher races are destined to displace the lower. This extinction of the lower races is predestined by nature, and it would thus appear that we must not merely acknowledge the right of the white American to destroy the red man, but perhaps praise him that he has constituted himself the instrument of Providence in carrying out and promoting this law of destruction. The pious manslayer thus enjoys the consolation that he acts according to the laws of nature, which govern the rise and extinction of races. Such a theory has many advantages: it reconciles us both with Providence and the evil dispositions of man; it flatters our self-esteem by the specific excellence of our moral and intellectual endowment, and saves us the trouble of inquiring for the causes of the differences existing in civilisation."

And Mr. Lang in nearly the same words tells us,† "It seems, indeed, to be a general appointment of Divine Providence, that the Indian wigwam of North America, and the miserable aborigines of New Holland, should be utterly swept away by the floodtide of European colonisation; or, in other words, 'generalising, as writers of this stamp do, as they go', that races of uncivilised men should gradually disappear before the progress of civilisation, in those countries that have been taken possession of by Europeans."

* Waitz, p. 351.

† History of New South Wales, 1852, vol. i, p. 25.

These opinions respecting the laws of population were held in all their force by the early English, Spanish, and the Portuguese colonists. That by some divine interference the aborigines melted away before them, whilst their own increase was by the same power carefully provided for, was an article of faith, and is so still amongst almost all the descendants of Europeans. Nor was such a belief at all wanting amongst the aborigines themselves. One of the principal causes of the success of Cortes in Mexico—indeed, so great a cause, that probably without its occurrence all his energy and abilities would have been in vain—was the firm conviction of Montezuma, long before the appearance of Cortes, that the time was at hand when he and his race were to give way to another and a more powerful people. Had the American monarch been aware of the resistance which natural laws would oppose to the dispossession of his people from their native soil, and depended upon them rather than on the prophecies of his priests or the terrors of his gods, Mexico might not even at the present moment have had to beg for an emperor from the house of its original conquerors. There are not, however, wanting, persons to take a more reasonable view of the subject. Amongst others, first, a most experienced traveller; and, secondly, one of our first living statesmen.

Mr. Stokes says,* "History teaches us that whenever civilised man comes in contact with a savage race, the latter almost inevitably begins to decrease, and to approach by more or less gradual steps towards extinction. Whether this catastrophe is the result of political, moral or physical causes, the ablest writers have not been able to decide; and most men seem willing to content themselves with the belief that the event is in accordance with some mysterious dispensation of Providence. For my own part I am not willing to believe that in this conflict of races there is an absence of moral responsibility on the part of the whites; I must deny that it is in obedience to some all-powerful law, the inevitable operation of which exempts us from blame, that the depopulation of the countries we colonise goes on. There appears to me to be the means of tracing this national crime to the individuals who perpetrate it."

The present Lord Derby, in a dispatch, dated December 20th, 1842, and addressed to the Governor of Victoria, says, "I cannot acquiesce in the theory that they, the aborigines, are incapable of improvement, and their extinction before the advance of the white a necessity which it is impossible to control."

The course I propose to take in pursuing the investigation will be this. I shall first point out countries where the white man and the native live and increase side by side. I shall then consider those cases where it is alleged that the mere contact of the white man has ensured the speedy extinction of the indigenous population, and I hope to prove that this conclusion has been arrived at upon very insufficient data.

And then I will examine the causes which have brought about the

* Stokes, vol. ii, p. 463.

diminution of the populations of New Zealand, Australia, and North America; in which countries alone, with the exception of a few limited areas, the fact of any considerable decrease of the indigenous races has been proved to be taking place. I believe it will be found that these causes are in no respect different from those which have produced the same effect in other parts of the world at various periods, and are quite independent of any considerations of superiority or inferiority of race. And I think I shall be able to establish as a concluding one this proposition:

That races have only been extinguished, or brought to the verge of extinction, when it has happened that the soil on which they subsisted has been occupied by other races at the same time that their number was in process of diminution through the operation of the same causes to which all races are periodically subject.

In the Philippine Islands, which have been under the dominion of Spain about three hundred years, the native population is found under favourable circumstances to increase. So also do the Spaniards; and though their number is not large, owing to the disposition to return home as soon as a fortune is realised, yet the excess of births over deaths in Manilla is such, as to prove that the ordinary law of increase is not in any way interfered with by the climate, or contact with the natives. They, indeed, do not increase quite so fast, but the difference is small. In other parts of the Archipelago, the increase of the population, since the missionaries have been able to observe it, seems to have been very considerable: thus, in 1736, that of Panay numbered 67,708 persons, and by the last census, 527,970, of whom only a very small number were Spaniards. Here, therefore, the theory of the necessary extinction of inferior races is manifestly at fault.

No colonies have been planted in Polynesia, unless we except the recent establishments of the French in Tahiti and New Caledonia, and of the Spaniards in the Ladrone Islands. The soil, therefore, of most of the innumerable islands of Oceania remains in the hands of the indigenous races; still it has been said by many writers that their numbers are gradually but certainly diminishing. After a careful comparison of the statistics on this point, I have come to the conclusion that it is not so. That is to say, that although in some instances, no doubt, an absolute decrease within a certain number of years can be proved, yet the same thing has taken place in other cases, and has lately been succeeded by an increase; and there is no reason why the ordinary but somewhat violent oscillations which take place among savage nations should not be considered sufficient to account for all the phenomena hitherto observed.

Thus at Nine or Savage Island, the population has lately risen from 4,700 at the census taken by the Samoans, to 5,000 in 1862.

In the Friendly Islands, it is asserted, says Erskine, that the abandonment of polygamy, combined with other causes, has tended of late to an increase of the population. Capt. Wilkes estimated their numbers in 1839 at 18,500; but the missionaries in 1847 gave them as 50,000. Erskine thinks this calculation excessive; but admits that in all the islands he visited, the proportion of children to the

adult population seemed to be large, and that there was no prevailing epidemic.

And of the Fiji Islands, he says,* "We heard none of the pathetic lamentations from the Fijians in which the New Zealanders and other Malayo-Polynesians often indulge, on the subject of the gradual melting away of their numbers."

And of the Loyalty Islands.† "The population of these cannot be numerous, as they are generally barren and deficient in fresh water, wants which occasion a constant emigration to New Caledonia." The fact of these islands supplying a constant stream of emigrants is quite enough to show that no extinction of the race is going on there.

The history of the Samoan Islands, if it could ever be recovered, would probably form a most instructive commentary on that chapter of Malthus on "The Oscillations of the Population amongst Savage Nations." That the natives were once much more numerous admits of little doubt; possibly as many as 100,000. But that they have systemically diminished since their discovery in 1678 is certainly not the case. In 1848 the excess of births over deaths during the preceding six years was estimated at six in the Manua group; whilst at Tutuila the numbers were estimated in 1849 at 300 less than ten years previously. Erskine in that year considers the number in the whole Archipelago to be gradually but slowly diminishing, which he seems to attribute principally to the spread of influenza and whooping-cough. But if the latest observer of all be correct, the natives must, like other races, have surmounted the fatal effects at first caused by these disorders; for, says Hood, of the year 1862, "the population is thought, by those likely to form a correct opinion, to be rather on the increase of late years."

The Sandwich Islands and the Society are the principal examples brought forward to prove the theory of the inevitable disappearance of what are called the inferior races.

The fact that in the former the population has in historical times very materially diminished admits of no doubt. But in the first place there is as little doubt that it was on the decrease when they were discovered by Cook in 1778. So that even at starting it is manifest that the contact of the whites with the natives must be far from being the sole cause of the depopulation.

Two hundred thousand would be probably the correct computation of the Hawaiian population in 1778-9. From Cook's time to the present, the decay has been continuous and rapid. At the time of Mr. Ellis's visit (1823) the number on the whole of the islands was estimated at from 130,000 to 150,000 souls, of which 85,000 lived on the great island Hawaii. A rapid depopulation had certainly taken place in the previous fifty years. He assigns as causes wars, pestilences, infanticide, and the increase of depravity and vice; all causes enumerated by Malthus as taking place amongst all races at different times; certainly not excepting European.

When Mr. Hill was in the islands (1849) the population had fallen

* P. 271.

† P. 18.

to 80,000. They were then suffering from measles, influenza, and dysentery; by which their loss was estimated at 10,000.

By the census of 1853 the population was 71,019; By the census of 1860 the population was 67,084. But to these must be added 1,000 Hawaiians who were absent from the islands at the enumeration, which would bring the numbers up to 68,084, being a loss of 2,935 in seven years. "But," says Hopkins, "it is believed that the downward progress is at present at a stand, and that there is a probability of the next census showing some small augmentation of numbers.

And again, "Reduced in numbers to little more than 70,000, the population seems to have touched its lowest point. Some of the causes of destruction are diminished."

Amongst these causes the ill-regulated zeal of the missionaries is perhaps the most efficient. The government has, however, been wise enough to withstand their efforts; "it feels its hands strengthened by the approbation of enlightened observers, and by the progress already made in decreasing the power of a scourge which had been steadily decimating its subjects."

The Sandwich Islands must then be considered as a spot where an interesting experiment is being tried. Had any European nation, under the plea that the inhabitants were not so numerous as they had once been, and that the islands were capable of supporting a much larger number, proceeded to plant a colony, and seize such a portion of the soil as they thought fit, all hope of ever recovering their numbers must have been cut off from the Hawaiians. Restricted to such an area as might seem enough to support the numbers then existing, they could not of course have had any opportunity of demonstrating that they were no exception to the natural law of increase, provided a sufficient time were given for the alteration of habits necessary on entering new conditions of life. They have been the subject of observations for somewhat less than a century; too short a time, surely, to pronounce so positively that the state they were found in was necessarily one from which they had no power of recovering.

During about the same period of time the population of Spain once declined quite as rapidly. At the beginning of the seventeenth century the population of Madrid was estimated to be 400,000; at the beginning of the eighteenth century less than 200,000. Seville possessed in the sixteenth century upwards of 16,000 looms, which gave employment to 130,000 persons; in the reign of Philip V there were only 300. In 1662 it was stated that the city contained only a quarter of its former number of inhabitants. The decay of Burgos was equally rapid. During the latter half of the seventeenth century matters became still worse. The capital was in danger of being starved. All over Spain the same destitution prevailed. The fields were left uncultivated; vast multitudes died from want and exposure; entire villages was deserted, and in many of the towns upwards of two-thirds of the houses were by the end of the seventeenth century utterly destroyed. And finally, the Spanish explanation of all this is precisely the same given by those who profess to see a natural dis-

pensation of Providence in the decrease of the Hawaiians. "God decreed the decadence of the monarchy of Spain from the year 1621."*

The causes of this depopulation were neither war nor bad harvests; but simply indolence, bad government, and the want which was the natural consequence. Had any European race insisted upon seizing a considerable portion of Spanish soil, the nation was far too weak to resist, for it was on the point of being re-conquered by the Moors, and we should not now be disposed to admit that Spain had ever possessed the power of recuperation it has recently displayed. Nearer home again:—

"In the year 1680, so many families in Scotland perished from want, that for six miles, in a well inhabited extent, there was not a smoke remaining. Of sixteen families on a farm, thirteen were extinguished during a few bad years; and on another, out of one hundred and sixty-nine individuals, only three families survived. The inhabitants of the parish in general were diminished by death to one-half, or, as some affirm, to one-fourth of the preceding number."†

The actual depopulation of Tahiti is also undeniable. Whether the number in 1774 was 240,000 or 120,000, according to Cooke or Forster; whether in 1797 it was 50,000 or only 16,000, according to the missionaries or Capt. Wilson; there is enough evidence to establish the fact of a decline since its earliest discovery. But this decline is far from having been continuous. In 1803 the population was estimated at 5,000; and though this was no doubt too low, still, as just before the arrival of Capt. Wilkes a census had given 9,000, we may conclude some slight increase had taken place in the interval. And he says: "The population for the last thirty years has been nearly stationary; the births and deaths are now almost exactly in equal number. One of the oldest of the missionaries informed me he could perceive no change in their apparent numbers." This, too, is the more remarkable, because the island was then frequently left without a medical man at all. By the last account of M. Cuzent, the census of 1857 gave a little over 6,000 for Tahiti alone. Cuzent, however, gives as reasons for the falling off of the population, wars, epidemics, and a want of attention to the rules of health, which would produce the same effects in any part of the world. So there is no ground here for calling in any mysterious cause to account for a phenomenon which has occurred in all parts of the world at different times. In New Zealand, however, and in Australia, the numbers of the aborigines have certainly much diminished since the arrival of Europeans.

But the question we have to deal with is, not the absolute diminution, but the inevitable extinction of these races. The property of the native tribes of New Zealand in their lands has been acknowledged by the British Government; and they have shewn themselves capable of a certain amount of civilisation. It might be supposed,

* These statements about Spain are taken from Buckle, vol. ii.

† Malthus, vol. i, p. 465.

therefore, that after a time the diminution incident to a change of habits and the introduction of new diseases would cease, and a gradual increase, in proportion always to the quantity of the soil retained by the natives, would take place. And it is the opinion of some of the missionaries that the population is beginning to increase, and that in some parts, Taranaki for instance, the number of births already exceeds the number of deaths. Lately, again, the English have shewn a determination to acquire by some means or other additional tracts of land whenever they want it. Any considerable loss of actual soil must be followed by a corresponding diminution of population; but this would be equally true of the English, were any continental nation to deprive them of one-half of their island. Nor are the natives themselves at all unaware of the necessity of retaining the soil if they wish to exist. "Land is the ewe lamb of the New Zealanders," says their proverb, "why, then, should the white man too eagerly desire it?" There is, therefore, nothing in the history of New Zealand, but rather the contrary, to prove the truth of the principle I have laid down, that races can only be extinguished by occupying the soil on which they exist; and that the same process would extinguish any race, whether superior, equal, or inferior to the invading one.

Nor in Australia has it yet been shewn that the population diminish much more than in proportion to the occupation of the soil. It is well known that the tribes of the interior are much stronger and more intelligent than those on the coast, who are, or rather were, in fact, driven there as the weaker and degenerate members of the Australian race.

Even in the savage view taken by ordinary writers of these unfortunate people, whilst some unknown cause is called in to account for what interest alone prevents them from understanding, the very principle contended for is unconsciously admitted. The article of the *Encyc. Metrop.* on Australasia runs thus:

"Some morbid philanthropists, who have formed associations for the preservation of these races, attribute their extinction to the aggressions by fire and sword upon them by the settlers, and the deadly diseases they introduce. Although to some extent this may be the case, still there is a *more powerful influence* at work, which ultimately will cause the inferior race to be swallowed up by the superior. . . . The tribe that inhabited the country around Port Jackson and Botany Bay, which Governor Philip on his arrival found to number about 1,500 individuals, is now extinct. The last of its members died in 1849, little more than sixty years after the occupation of their lands by the Anglo-Saxon. These facts are startling, and demand further investigation."

But how or on what were these people to live *after* their lands were occupied? The time, too, sixty years, is clearly just what might have been expected—the life-time of the existing generation, which was cleared.

We are accustomed to consider the United States as exhibiting the leading example of a constant and indefinite increase of population;

but even there population is limited by the extent of soil and the means of subsistence. Some remarks made in the official report on the last census, are no less applicable to the aborigines of Australia than to the inhabitants of the eastern states of North America.

"Thus far in our history no state has declined in population. Vermont has remained nearly stationary, and is saved from a positive loss of inhabitants by only one-third of one per cent. New Hampshire, likewise, has gained but slowly, her increment being only two and a half per cent. on that of 1850. The old agricultural states may be said to be filled up, so far as regards the resources adapted to a rural population in the present condition of agricultural science. The conditions of their increase undergo a change upon the general occupation and allotment of their areas. Manufactures and commerce then come in to supply the means of subsistence to an excess of inhabitants beyond what the ordinary cultivation of the soil can sustain."*

Even the Australians, however, do not diminish quite so fast as is frequently asserted. In the last census (1861) of Victoria, the paragraph relating to the aborigines says:

"The returns show an apparent falling off in the number of aborigines. An account was taken of 1,694, of which 1,046 were males and 648 were females, as against 1,768 of both sexes in 1857. It is not pretended, however, notwithstanding the vigilance of the collectors, that all were enumerated on either occasion. The returns from another source, the Central Board for the protection of the Aborigines, testify to the ascertained existence of 1,860 in different parts of the colony in August 1861, or four months after the date of the census; and it is believed by the members of that board that this number is rather under than over the mark. It is pretty certain, however, that their total number does not exceed 4,000."†

So that if we follow what is probably the best authority, there may have been a slight increase of late.

The last case to be considered is that of the North American Indians. We must take note, once for all, of the fact, that in the Indian statistics, prepared by order of the American government, the numbers are generally below the mark. And though the approaching extinction of the Indian race has long been prophesied, yet all these prophecies, so tedious in fulfilment, prove that the Indians are more numerous than was generally supposed, and that the great deserts offer more resources than was imagined; and thus, after all, a great people are not as easily extinguished as a man; it requires ages to crush it and annihilate it completely. No Indian tribe, says Domecnech, has ever yet been entirely extirpated. There is no difficulty in accounting for such diminution of the numbers of the Indians as has really taken place. War, famine, and diseases will account for all. There is no want of prolificacy in the women; and however low a tribe may have been reduced by well-known causes, there are too many instances on record of an immediate increase under favourable

* Kennedy's Report on the Eighth Census (1861) United States, p. 3.

† Census of Victoria, 1861, Population Tables, part i, p. xiii, par. 39.

circumstances to allow of the justice of calling in any mysterious agency to account for the destruction of the race.

I am not concerned to deny that many tribes of Indians have nominally ceased to exist, or even actually been exterminated. My argument is not affected by the fact, if it be one, that the Natchez, the Shawanoes, the Delawares, Potowatomies, Seminoles, Kaskaskias, and several other formerly powerful tribes have been exterminated, or nearly so. Their kindred still survive in the Chippeways, the Sioux, the Mandans, the Comanches, the Omahas. These alone would be sufficient if the lands of North America were restored to them, to re-people the whole of the continent which was formerly possessed by their ancestors or kindred when it was discovered by the Europeans.

For the North American Indians form no exception to the general law, that population increases in geometrical progression. The Omahas may have lost two-thirds of their tribe by small-pox in 1838, but they have mostly from four to six children, and sometimes from ten to twelve. The Mandans may have been carried off from the same cause, with few exceptions, in 1837, but they have often as many as ten children. Two-thirds of the aborigines of the Oregon district may have perished by fever and the small-pox; but the women on the north-west coast are very prolific. Among the Chippeways, the average number of children is four. Among the Sioux sterility is rare; from three to eight children is the usual number, and no one remains unmarried.

The PRESIDENT said that there was no subject more important or interesting than the one brought before them in the two papers which had just been read. Mr. Lee thought that there were existing lineal descendants of the Egyptians, Celts, and Britons: and in a certain sense he was inclined to agree with him; he, however, believed that they were only to be found in their original dwelling places. He was glad to find that he was supported in the views, which were much contested at the time he brought them forward, of the non-acclimatisative powers possessed by the races of mankind generally, and the lower races in particular. Mr. Bendyshe especially dwelt on the fact that it was removal from his native soil or territory which was the chief factor in the extinction of races; but the deleterious influence of change of climate has scarcely been noticed, nor has sufficient stress been laid on this fact. He argued that it was the removal from the soil which was the chief cause of extinction; but Mr. Bendyshe seemed to think the means of living were taken away, and that from this cause they ceased to exist. It was difficult to admit this, inasmuch as there were plenty of cases of tribes becoming extinct when every care had been taken of them; but in every case he knew of, it was when they had been taken from their native soil. The Tasmanians had been taken every care of, but it must be remembered that they were removed from their native soil and all sent to Flinders Island, where the care of the government did not at all lessen the mortality. Mr. Lee tells us that before another hundred years the New

Zealanders would become extinct, and he had frequently heard Mr. Crawford assert most positively that they would be extinct in twenty years. Those gentlemen were prophets, for they had no data on which either conclusion could be arrived at by inductive reasoning. The fate of the New Zealanders, and their extinction, depend altogether on unknown future events. Remove them all to one island for a few years, and should they not go off sufficiently fast, again another remove, he thought, would hasten the process. Mr. Lee tells us that, before the arrival of Europeans, marriages were more generally prolific. It was a difficult and much complicated subject to assign to each cause the part which it plays in such phenomena. Some writers had attempted to sneer at Count Strzelecki's observations respecting the aborigines of Australia not having children by natives after they had done so by Europeans. But there was a general truth in the assertion, although, perhaps, the reason given by that observer was not the real cause. We are told the natives are susceptible of cold; but how much of this is owing to the introduction of the pernicious habits of civilised life? As to the imaginative part of these papers, that a higher order of human beings were likely to appear, and that whole races which now reign supreme will have passed away, he would only say that such speculations were not founded on a shadow of scientific data. That races incapable of civilisation will pass away there was some little reason to suppose; but even this is by no means to be positively asserted. Nor was it worth while to waste time in discussing the dream of Gibbon or Macaulay respecting the New Zealander looking at the ruins of London. These speculations were only interesting as showing the profound ignorance of Anthropological science in men of genius and learning. Mr. Lee, towards the end of his paper, makes the most extraordinary assertion, that the Australian has "not advanced in moral development since the first formation of his species, but he has actually retrograded." Now he should much like to know from the author of this paper when the first "formation of his species" took place? and on what evidence or reasoning he bases his assertion, that the Australian has retrograded in his moral condition? Mr. Bendyshe has favoured us with a most philosophical and suggestive paper, in which, however, he did not mention many of the causes of the extinction of races. For instance, he contends that disease is a law of nature, but has omitted to tell us that all races are not subject to the same disease, and that a disease which may be most fatal to one race may be quite harmless to another. Nor has he mentioned the varying effects that spirituous liquors have on different races. Professor Kingsley has recently been advancing the opinion that the use of spirituous liquors amongst the aborigines of America is not one of the chief factors in their extinction, because spirituous liquors do not produce any decrease amongst the largest consumers of alcohol in the world—the Scotch and Irish. But the question of race is here entirely ignored. The large active brained European may take a certain proportion of stimulant with impunity and, indeed, benefit, but the same quantity to a smaller and less active brained race, would be fatal. Whilst admitting, with Mr. Bendyshe,

that there was no mysterious dispensation of Providence in the extinction of races, he could hardly consider that the causes of the decrease of races were the same all over the world. Some diseases are much more disastrous to savage than to civilised life—as, for example, syphilis, which has played such an important part in the extinction of savage races. We know nothing yet of the causes of the increase of one race, like the Irish, and the stationary position of another, like the French: we can only guess at the causes. Why is it that Ireland is so prolific as to be able to people a large part of the world? If the laws of the present are also the laws of the past, then we shall be obliged to conclude that Ireland is verily the long looked for cradle of mankind! Mr. Bendyshe enumerates the several causes of the extinction of population; but under what head does he include those cases of poisoning and man-shooting which have been carried on in Tasmania, Australia, and the Cape? In Queensland, half a tribe of blacks were poisoned by a present of arsenic mixed with flour. The Brisbane tribe of blacks, a few years ago, had 1000 fighting men, and now are nearly extinct. Six years ago there existed 1500 aborigines at Corroboree, and now not a fourth of that number exist. Nor can we include those cases of man-shooting under any of the categories mentioned by Mr. Bendyshe, for they must be classed under the head of wilful extermination. There could be no doubt that in the juxtaposition of the superior and inferior races, the latter will always become extinct if they attempt to compete with the civilised man. But when the savage is in subordination to the civilised, the extinction of the savage does not take place. Lord Derby, in 1842, was not able to admit that the aborigines of Australia were incapable of civilisation, which simply shows he knew nothing at the time he wrote of Anthropological science. Neither of the authors of the papers had made any distinction between the extinction of tribes and races. There could be no doubt of the extinction of tribes; but when we speak of the extinction of races or species, that was quite another question.

Mr. ALFRED R. WALLACE referred to the question of the effect of contact between the higher and lower races of man. Mr. Lee's paper gave undoubted cases of the extinction of races, and Mr. Bendyshe stated that there was no natural law operating to cause extinction of races except when the land was taken away. The possession of the land was the essential point; nobody imagined that the mere presence of the white man effects the extinction. The real question was, Does extinction follow when each of the races brought into contact acts simply in accordance with its own nature. Of course the white man takes the land; it is simply a question of whether the native can himself cultivate the soil. If he cannot, he must evidently decrease independently of the introduction of diseases or spirituous liquors, for the white man *will* cultivate and spread, and the land cannot support more than a limited number of inhabitants. Savage races are distinguished by the small amount of population subsisting on a given area of land; and the more savage a race is the more scanty is the population. The Australians are an instance in point. Of the

great diminution of many native races there can be no doubt, and there is not much difficulty in tracing special causes to which this is attributable. Suppose, for example, that in New Zealand, on the first appearance of the white man, the proportion of the sexes was equal. The immigrants were, of course, chiefly male, and unless New Zealand was different from all the rest of the world, they would take a certain number of the native women to live with them, and would thus destroy the balance which previously existed between the sexes. The native men would then be compelled to obtain wives, either by taking the women younger, or by having one woman common to several men. Either of these causes must, for well-known physiological reasons, occasion sterility. One great cause of the scanty population of countries occupied by savage tribes is the treatment of the women. In the lowest races the women perform the most laborious work, to the great prejudice of their fertility; and it is found that exactly in proportion as the women are relieved of their hard labour, and are thus enabled to devote more time and attention to their offspring, the population increases. Mr. Bendyshe had cited a number of cases where native populations are on the increase, though in contact with civilised man, but the cases given by him are exactly those where the proportion of whites is very small. In the Philippine and Fiji Islands, the number of Europeans is very few; there the population does not decrease; but in the Sandwich Islands, where the whites are numerous, the population is well known to have decreased immensely. He believed, therefore, that there were ample and real causes which must, whenever a very high and a very low race came into contact and competition, lead to the diminution and final extermination of the latter. The greater vital energy, the superior health, and more rapid increase of the European, would lead him, in all cases where the climate was congenial, to occupy the soil, and thus diminish the resources of the native inhabitants. The introduction of new diseases and of alcoholic drinks, of course produced their effects, and with the selection of numbers of the young and healthy women by the intruders, would inevitably lead to those results, more or less plainly visible, in America, Tasmania, New Zealand, and the Pacific Islands. The only thing that could save these lowest races was their becoming rapidly civilised. But civilisation was a slow process. It implied great organic and psychical changes in the race, which could only be brought about by slow steps in successive generations. A forced and superficial polish was not civilisation, and he believed, therefore, it was a mere question of time, and sooner or later the lowest races, those we designate as savages, must disappear from the face of the earth.

Mr. G. WITT, having resided in Australia, could affirm that there was no indiscriminate slaughter of the natives. He knew a case of a man who put arsenic in bread; but the man who did it was hanged for it. He was once at a dinner party where one of the guests said he meant to destroy some blacks who annoyed him, when Sir George Gibbs said to him, "If you do, I'll hang you." He knew of other men going out after the aborigines and

shooting them; but all these cases were done entirely against the wish of the people and government of the colony. He felt bound to say that everything was done by the government to protect the aborigines.

Dr. JAMES MURIE thought they were much indebted to the President for the distinction he had drawn between a tribe and a race. This was a great point. Leaving aside a definition of race, the question which was not decided, what types of mankind have increased or decreased? The Caucasian seems to have increased. The Jews exist as a race; but although he had been some time in Egypt, he could hardly decide whether the Egyptians exist as a race. He agreed with the President that tribes do become extinct, but he questioned the extinction of races.

Mr. J. REDDIE said, it must be borne in mind that both the Jews and Egyptians were civilised races, and that in the struggle for existence the civilised man was far superior to the savage. He agreed with the President respecting the influence of spirits, and believed that the injurious effect of ardent liquors greatly depended on the mental condition of the people. He admitted that the European was the superior race, and he could see no reason why the superior in intellect should not take possession of the land occupied by the inferior race.

Mr. S. E. B. BOUVERIE-PUSEY thought the great point to decide was, whether the savage races are capable of civilisation. He thought it quite certain that no savage race could exist by the side of a civilised race.

Mr. BENDYSHE in reply said, he did not perceive that any one has really contested the reason he had endeavoured to demonstrate to be the principal one in causing the diminution of populations. That the intercourse of the native women with the first colonists would be an assisting cause there can be no doubt. It comes, however, under the head of promiscuous intercourse, and its effects would not be perpetual. With the introduction of Englishwomen the practice would to a great extent cease. No one can deny that the force of a nation like Great Britain could be employed in such a way as to actually destroy all the inhabitants of the Polynesian Islands, if it was thought fit to do so. This was in fact actually done by the Spaniards on the Ladrone Islands, and virtually in Tasmania by ourselves. But such actions come under the head of war. The doctrine that races cannot be extinguished in their ethnic centres, held to a degree of extreme exaggeration by the late Dr. Knox, labours under the double disadvantage of not explaining what is meant by a race, or by an ethnic centre. Were it possible to apply the latter term to any tract of seaboard as the cradle of a race, it is clear that such a race would be driven by Europeans out of their ethnic centre first of all, and if the country was large, and not adapted in its interior for the white man, we should see such a race subsisting in its outliers long after its ethnic centre had passed into the hands of others. On the supposition that the ethnic centre of the Basques has long since been sunk below the Atlantic, we have a case utterly destructive of the theory.

The Basques live and increase like other people—in the extreme points whither, according to Dr. Knox, they took shelter in consequence of the destruction of their original habitations thousands of years ago. The same is true of the Polynesians, if it be true, as many suppose, that those islands are the sole remains of a vast continent. Diseases have also played their part, but all these causes would only be temporary, were a sufficient quantity of soil left in the hands of the indigenous races. Let us hope, in the interests of anthropology, that such an amount of territory will be reserved and respected in the possession of the natives we come in contact with, as to ensure a perpetuation of some of their descendants to ages indefinitely remote. In historical times one tribe has always been found to increase on the ruins of another. Thus it was not till after the massacre of the French by the Natchez that the Muskogees attained any importance. In the course of thirty years this tribe spread over a very fertile country of more than one hundred square miles in extent, and built fifty towns. The Navajos, according to Domenech, increase in number every day. The Cherokees increased so fast on the lands allotted to them in Alabama, as to incur the fear and jealousy of the whites. They were compelled by force to transplant themselves beyond the Mississippi, and in consequence were considerably reduced in numbers. Here we have a striking proof that it is the occupation of the soil of the aborigines alone which is the real reason of any irrecoverable diminution in their numbers. The Indians living on their allotments in the state of New York seem to be almost stationary. Thus, their total number in 1845, was 3,753; in 1855, 3,934; and now, again, about 3,700. So there is nothing to show that the Red Indian, if not actually driven from the possession of the soil, will not continue to survive for an indefinite period. Those who are in the habit of speaking about the speedy extinction of a race ought to fix some period, within which the disappearance of a race can be called extinction. No one can undertake to assert that the Red Indian will continue to inhabit the continent of North America as long as the human species exists, and so far cannot deny the possibility of his extinction as a race; but, on the other hand, I should consider the proposition I have asserted, sufficiently demonstrated, if the mysterious dispensation of Providence, invoked by some as a real cause, did not completely triumph for the space of the next thousand years. If, during that period, considerable oscillations took place of numbers, owing to the checks enumerated by Malthus, it would be clear that the laws of population are not in any way interfered with in the history of savage tribes; and that if extinction of any considerable race was ultimately effected, it could only, by the coincidence of the occupation or its soil, with one of the usual or normal periods of loss of numbers to which all races are subject.

FEBRUARY 2, 1864.

JAMES HUNT, ESQ., PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellows were elected. Rajah Sir James Brooke, K.C.B.; Rev. Henry Clare; Lieut. Fred. Firebrace, Royal Engineers; J. O. Griffiths, Esq.; Charles J. Harland, Esq.; A. E. McCallum, Esq., 39th Madras Native Infantry; George F. Rolph, Esq.; Dr. James Turle; Dr. George Moore, and H. J. B. Hancock, Esq. The Secretary read the list of presents given to the Society since the last meeting, for which thanks were voted to G. E. Roberts, Esq.; Dr. Beddoe; C. F. von Martins; J. Fred. Collingwood, Esq.; T. Bendyshe, Esq.; Dr. James Hunt; M. Georges Pouchet, and M. Duhousset.

The following paper was then read:—

Some Remarks on the Construction of the Upper Jaw of the Skull of a Greenlander. By Dr. C. G. CARUS.

HIGHLY appreciating the opportunity of corresponding with the London Anthropological Society, I feel myself called upon to communicate some remarks, and to add a question about them, the answer to which will not be uninteresting for anthropology in general.

In the first part of my *Atlas on Cranioscopy*, which appeared in Leipzig in 1843, I remarked that in the skull of a Greenlander, which I sketched, it was singular, that on this skull there was a decided separation between the upper jaw-bone and the intermaxillary bone, almost as in little children or in quadrupeds, and consequently in this skull there was a decided resemblance to an animal form.

Very soon after this I was so fortunate as to procure another real authenticated Greenlander's skull, and I was not a little surprised to find in this also quite the same conformation on the jaw-bones. Taking it for granted that the London Anthropological Society, either in their own collection, or at the British Museum, can easily procure a great number of real and genuine Greenlander skulls, I would propose that a strict examination may be made of all the skulls and their upper jaw from this race of people, and would look forward with pleasure to a report on this subject in the publications of the Society.

It would in all cases be very remarkable if this construction of the bones, which I find so very seldom in African, Asiatic, and European skulls, should occur so often as to make it almost *universal* among the Esquimaux. Certainly, if this is the case they might be classed among the lower order of human beings, and the well-known voracity of these tribes from the extreme north of North America could be then brought in a near connection with this particular conformation.

Mr. C. CARTER BLAKE stated that the above paper having been referred to him by the Council, it was now his duty to make a report

thereon. He had not thought it necessary to pursue the comparison further than the investigation of the Greenlander or Esquimaux skulls in the collection of the Royal College of Surgeons, and in the British Museum. He there found several instances in which the premaxillary palatine suture was distinctly closed in the skulls of Greenlanders, and on referring to his own note books, he found that similar instances were sometimes present in other races than the Esquimaux. His friend, the late Camille Bertrand, whose loss to anthropology he had personally to deplore, as well as the society at large, had accumulated many facts on this subject. He might further refer to Rousseau's valuable memoir, "De la non-existence de l'os intermaxillaire chez l'homme à l'état normal, et des erreurs commises à l'égard de la prétendue existence de cet os." Prof. Carus had not stated whether the fissure he alluded to was present on the outer or inner side of the maxillary bone. If the former, of course such an abnormality was almost unprecedented in the human adult; but if the latter not uncommon defect of ossification was all that Prof. Carus alluded to, Mr. Blake had much pleasure in reading the following passage from the work of his friend Dr. Webb, on *The Teeth in Man and the Anthropoid Apes*. "We may, however, remark here, that although the premaxillary palatine suture is usually entirely obliterated at a very early period in the human *cranium*, traces of its existence are occasionally found both in adult European skulls and in those of the dark races. A careful examination of the collection of *crania* in the Museum of the Royal College of Surgeons will satisfy the inquirer on this point. In the skull of the human idiot figured in the first volume of the *Zoological Transactions*, the same condition is represented, and its occasional occurrence has not only been noticed by Lawrence and other modern writers, but it was especially remarked by some of the older anatomists. In Vesalius's great work, *De Humani Corporis Fabrica*, edit. 1555, is an engraving of a skull exemplifying this peculiarity. Let it be, however, distinctly understood that in such exceptional cases the suture has never been found to extend through the *alveolus*. Galen, as Vesalius infers, debarred the practical study of human anatomy, and, restricted to the dissection of the lower animals, was led into the error of reckoning an intermaxillary amongst the separable bones in Man." The character in question was neither common to all Esquimaux skulls, and it was to be found in other races of man.

The thanks of the Society having been given to Dr. Carus and Mr. Blake: the following paper was then read.

On Anthropological Desiderata, considered with reference to the various Theories of Man's Origin and existing Condition, Savage and Civilised. By JAMES REDDIE, F.A.S.L., Hon. Mem. Dial. Soc., Edinburgh University.

SIR,—One of the first questions raised in this Society was, whether there were not already sufficient facts collected, from which it would be our duty to deduce general laws; or if the collecting of additional facts was not a primary duty? But, whether there be sufficient data

for a safe anthropological generalisation or not, it is not, at any rate, left to us to choose whether we should yet generalise or refrain from doing so. Generalisations or theories of man's origin and present condition have been already put forth, which we cannot ignore; and it is impossible to reflect upon the various facts of which we are aware, without considering their bearing for or against one or other of these conflicting theories. As regards the collecting of additional facts, I cannot imagine any dissent from the language of our President in his inaugural address: "It must be our object to decide what are the facts we most want, and to collect information on a systematic plan."*

It would be idle to enter into the question whether it would have been better not to have had theories put forward till all possible facts were collected. I question whether reasoning man could thus possibly refrain from drawing conclusions from the facts he already knows. But theories do exist; and, as they are diametrically opposed to one another, the practical and immediate question for us to decide is, simply, In how far are such theories supported, or not supported, by the facts we know? Till this is decided, indeed, we shall scarcely be able to ascertain what further facts we want to complete the science of man. While, if we attempted to arrange our facts—whether those already ascertained or those expected hereafter to be discovered—in accordance with some false hypothesis, we should only succeed in constructing an elaborate *pseudo-science*, that might have, indeed, the outward appearance of truth, but would have nothing of its stability.

It was long ago observed by Lord Bacon, that theories must necessarily at least seem to accord with facts, or they could not possibly be entertained or accepted as true. But every student of the history of human philosophy must know how the most obvious facts may be overlooked or disregarded, when they happen to interfere with antecedent traditions or theoretical prejudices. It is not merely travellers (as Dr. Hunt says), or the vulgar, who only see or believe what suits their preconceived notions. The Anthropological Society of London was actually founded in a year when a tardy first acknowledgment was publicly yielded, by one of our most eminent geologists, to certain facts in geology, the existence of which he had for many years persistently refused to admit, mainly because they proved that man was contemporaneous with certain animals, contrary to a theory he then held, which required these animals to be extinct ages before man came upon the scene.

This circumstance shows the great influence of theory upon induction, and may well serve as a warning to this Society, to guard against adherence to hasty generalisations, only based upon a limited or partial knowledge of facts. But there is something even worse than hasty generalisation, which ought to be utterly deprecated in science; namely, the admission of fanciful and gratuitous theories, of not merely "hasty" but *false* generalisations, that are not really in accordance with any recognised facts or principles whatever. And

* On the Study of Anthropology, (*Anthropological Review*, vol. i, p. 11.)

yet, in the very same volume in which Sir Charles Lyell acknowledges his long-lived rejection of facts bearing upon the antiquity of man, he becomes the ardent advocate of a new and startling theory, which strikes at the root of, and supersedes, all other theories and traditions of man's origin and history; and he recommends it to be accepted, as "at least a good working hypothesis", upon the sole ground that the geological record—which at present contradicts it—is "so very imperfect"! He seems also to think, that all that is now necessary, in order to secure its acceptance, so far as anthropology is concerned, is the discovery of the fossil remains of some animal intermediate in form between that of the ape and man. He even tells us precisely where the search must be made for this last of the apes or first of mankind—namely, in equatorial regions. And should there, by some fortuitous chance, hereafter be found buried in Africa, the skull of a Negro idiot, or of some African female of the lowest type, with an abnormal cranium somewhat more flattened than usual, enlightened and civilised man is then expected to believe, not only that his first human progenitor was a Negro, but that the Negro Adam and Eve were the progeny of apes! Certainly, if men can be brought to believe in the latter deduction, they can scarcely hesitate as to the former; though, before they can accept it, they must unlearn all the facts they now know—and which were recently so ably laid before this Society*—relating to the Negro character and history. According to the transmutation theory, adopted by Sir Charles Lyell, man becomes merely the last link in one so-called "natural" chain of being; anthropology would then be apparently reduced from one of the most difficult and complicated of human studies, to a simple fraction of one common science of organic life; and "Anthropological Desiderata" would dwindle down to the attainment of one solitary object—the discovery of a semi-human skull!

A hypothesis so sweeping and comprehensive as this, claims the especial attention of anthropologists. It is either a very great truth or an astounding error. If true, it disposes summarily of the most important anthropological hypotheses. It gets rid, of course, of the polygenous theory, by assigning to us the ape for an ancestor, mediately through the Negro. But it not only settles the question of man's origin from one or many Adams; but it also determines that the primitive man was a savage, or something even lower. And it must surely be admitted to be absurd, that anthropologists should go on discussing whether the primitive human pair or pairs were savage or civilised, if there is really any ground for believing in the probability that our immediate progenitors were baboons.

The scope of this paper does not admit of a critical examination of the whole grounds upon which the theory of transmutation is now put forward by Mr. Darwin. It is enough to say that, although it is enunciated in a volume of 500 pages, its author does not claim in that volume to have as yet adduced facts sufficient even to establish the

* On the Negro's Place in Nature. By Dr. James Hunt, Pres. A.S.L., etc. Trübner and Co.: 1863.

minor hypothesis "of the origin of species by means of natural selection"; though he has nevertheless not only arrived at that conclusion himself, but goes very far beyond it, to believe that, as species may have been derived from mere varieties, so genera may have been developed from species, and even animal from vegetable life, and man from the inferior animals. Moreover, he is of opinion (as expressed in the concluding words of his volume) that "there is grandeur in this view of life with its several powers, having been originally breathed by the Creator into a few forms, or *into one*; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, *and are being*, evolved."*

The chief and only positive argument in favour of the theory of transmutation on which he insists, however, is its *naturalism*, as opposed to what he characterises as "the miraculous system of distinct creations". The only weak point in the theory of which he appears to be conscious, is the want of palæontological facts to support it; and this he asks us to disregard, on the ground of the present great imperfection of the geological record.

Sir Charles Lyell adopts both these arguments, and, after pointing to the numerous recent corrections become necessary in the theories of palæontologists, which had been founded on the geological record when still more imperfect than now, he frankly acknowledges "that no one can believe in transmutation, who is not profoundly convinced that all we yet know of palæontology is as nothing compared to what we have yet to learn."†

Professor Huxley, as a physiologist, has also adopted the theory, and advocates it popularly, while admitting that, as yet, the physiological facts are contrary even to the limited proposition indicated by the title of Mr. Darwin's book. The professor allows that, "in addition to their structural distinctions, the species of animals and plants, or at least a great number of them" [he might rather have said all, almost without exception], "exhibit physiological characters—what are known as distinct species, structurally, being for the most part either altogether incompetent to breed with one another; or, if they breed, the resulting mule or hybrid is unable to perpetuate its race with another hybrid of the same kind." And yet he gives in his adherence to Mr. Darwin's theory in these words: "I, for one, am fully convinced that, if not precisely true, that hypothesis is as near an approximation to the truth as, for example, the Copernican hypothesis was to the true theory of the planetary motions"; adding, "if man be separated by no greater structural barrier from the brutes than they are from one another, then it seems to follow, that *if* any process of physical causation can be discovered, by which the genera and families of ordinary animals have been produced, that process of causation is amply sufficient to account for the origin of man"; then, "man might have originated by the gradual modification of a man-

* Darwin, *Origin of Species*, p. 525.

† Lyell, *Antiquity of Man*, p. 406.

like ape; or as a ramification of the same primitive stock as these apes." The "ifs" in these remarks are most important; but they do not stand in the way of Mr. Huxley's accepting the full conclusion of the proposition with all the ifs eliminated. He sweeps aside the inductive facts which are contrary, and to which he has himself previously testified, and, thus moralising, assumes the whole question at issue in these words: "Thoughtful men, once escaped from the blinding influences of traditional prejudice, will find in the *lowly stock whence man has sprung*, the best evidence of the splendour of his capacities." He also considers that, in his little book on *Man's Place in Nature*, he has set forth "the chief facts upon which *all* conclusions relating to the nature and extent of the bonds which connect man with the brute world *must* be based"!

We thus see how entirely the desiderata of this science depend upon the hypothesis which may be adopted, and which requires to be established. To establish the theory of transmutation, however, there is more to be disproved than to be discovered; and unless it can be imagined that the physiological facts acknowledged by Professor Huxley can be blotted out, it will become the duty of a Society such as this, not merely not to accept the theory of transmutation, but positively to reject it as totally unfit to be tolerated as a "working hypothesis."

I have certainly understood that anthropology claims to be established as a natural and inductive science. If so, the absence of positive proof* is itself a sufficient reason for not accepting any theory affecting it; but still more are we bound not only to reject, but to condemn a hypothesis which its very adherents admit could only be established by a *reversal* of the laws of nature. Not only does Professor Huxley explicitly admit that the physiological laws of hybridity are against it; but its author—no, not its author (for it is but the theory of Lamarck, Monboddo, and of the anonymous writer of the *Vestiges of Creation*, once more furbished up, and attempted to be established on totally different grounds than before), but its present regenerator—tacitly admits the same thing, in appealing to the geological record *in posse*, in order, as it were, to contradict the *de facto* record, and also to negative all the experience of mankind within the whole historical period, as to the breeding, intercrossing, hybridity, prolificacy or sterility of animals.

And yet this theory claims to be especially *natural*! What spite, then, can nature have had against its own laws, that the geological record should have been left thus imperfect at the very points which are supposed to be most important to prove their "constant mode of operation?" And in what unfortunate circumstances is man not placed in the world, if, notwithstanding his now supposed great antiquity of existence, there is not the slightest trace of a tradition, as well as not a single actual instance before our eyes, or within man's experience, of the operation of that law of life and development

* *i.e.*, positive proof of at least some facts in nature in accordance with, or analogous to, the class of facts which are assumed to have existed, *ex hypothesi*.

which claims our adherence on account of its constancy and freedom from a miraculous character? Surely, if there were nothing miraculous in the continuance of such a law of constant transmutations for millions of generations and ages, till it has produced all the forms we now behold in the world, its extraordinary cessation now, and within the whole historical period of man's existence, approaches the miraculous!

But a prior question might be raised. Professor Huxley has very properly observed, that the very first requirement of a hypothesis is that it should be intelligible. But none of the advocates of the theory of transmutation give us the slightest hint how to get over a physiological difficulty affecting its very conception, and which will always be a puzzle, at least when we ascend to the later developments of animal life—to the first mammals and to man. We can understand, in a measure, perhaps, at least as a proposition, how geese came to stretch their necks till they turned into swans; though, if that is the origin of the swan, we may wonder why geese do not ever become swans now, and are apt to forget the value of the "scientific" explanation, which is literally (according to Mr. Darwin) because the geese are now more confirmed in their character! We can even understand how monkeys might have rubbed off their tails by sitting upon them, though we cannot get a single step further in the "natural" transmutation of the ape into a man. But those arguments (if we concede them to be such) are rather furnished to us by Lamarck, though Mr. Darwin has adopted them; and we are totally at a loss how to apply them to the case of a fungus progressing towards a higher state of vegetable existence.*

But, shutting our eyes altogether to such difficulties, we cannot but feel curious, as men, to know how possibly the first mammal was nourished in its "struggle for existence", if its immediate progenitor was not a mammal. Or, again passing even over that, and contemplating "the lowly stock whence man has sprung," according to the theory, and as Professor Huxley expresses himself, to the physiological difficulty there is added one that is psychological; for even

* As regards vegetable life Mr. Darwin dwells almost exclusively upon his "Law of Natural Selection" to account for modifications. But when he comes to speak of animals he recognises that "the external conditions of life, as climate, food, etc., seem to have induced some slight modifications." He also says that "*habit*, in producing constitutional differences, and *use* in strengthening and *disuse* in weakening and diminishing organs, seem to have been more potent in their effects." When, however, neither use nor disuse appear to operate sufficiently to justify Lamarck's theory, then Mr. Darwin is ready to draw attention to "the most important consideration, that the chief part of the organisation of every being is simply due to *inheritance*;" and so he accounts for the "webbed feet of the upland goose" remaining unchanged, and he curiously describes them as being "rudimentary in function, though not in structure!" (*Origin of Species*, pp. 185, 204, 219). In fact, though Mr. Darwin confesses, that he is "well aware that scarcely a single point is discussed in his volume on which facts cannot be adduced, often apparently leading to conclusions directly opposite to those at which he has arrived" (p. 2); he very ingeniously claims all these conflicting facts as illustrations of one or other of the various theories, old and new, which he has selected to form into one, of a very plastic character indeed, itself a practical specimen of "transmutation from varieties."

if we see no difficulty as to the physical rearing and training of the first human baby which some favoured ape brought forth, we are forced to ask the transmutationists to favour us with some hint of the educational secret by which the monkeys trained and elevated their progeny into men, when we ourselves, alas! are scarcely able, with all our enlightenment and educational strivings, to prevent our masses falling back to a state which is rather akin to that of monkeys and brutes? To explain how man could rise from a monkey will render it comparatively easy to understand how savage man could elevate himself, and become civilised, though at present this is against almost all our experience and knowledge of the various savage races of mankind. The few questionable instances of "beast-children," as they are called, if they prove anything, only prove, that if not rescued from association with beasts, the offspring even of men might soon sink into something scarcely better than brutes.*

It cannot, of course, be asserted that it would be as difficult to prove that the savage could civilise himself as that the physiological laws admitted by Prof. Huxley might once have been reversed. The latter, we may safely allege, is simply impossible; for nature never contradicts itself. The former, we may admit, is within the range of mere possibility, though, according to all our experience, it must be pronounced to be utterly improbable. Improbable; because, if human knowledge is to be relied upon at all, we must trust to clear deductions from the universal historical experience of mankind, as well as to deductions of science. If the unimprovableness of the Negro renders it doubtful whether he should not even be classed as a different species altogether of the *genus homo* from the European, it is at least highly illogical, at the same time, to be entertaining the idea that the civilised European descended—or, in a more proper sense, ascended—from the Negro!

Now the question naturally arises, Supposing the geological record to be completed, as Mr. Darwin and Sir Charles Lyell assume it may probably be, would this serve, in the least degree, to give support to the thesis they have adopted?

The graduated order of nature is a fact. It is also the very theory of the oldest "tradition" of created existence to which we have been accustomed. And it need not even disturb time-honoured theories or prejudices, if we find that these gradations in nature are even finer than we have heretofore discovered. Even if the distinctive lines between the various higher orders of animated being were proved to be—or rather to have been—as faint as they are between some forms of vegetable and animal life, this would not prove that the one could be produced from or pass into the other. No dead remains of past existences could ever establish such an hypothesis. If ever a law of invariable nature, it would be a law now and always;—or what is a natural law?—and we should not have now to search the geological record in order to establish it, any more than to search the indefinite past to establish the laws of mechanics or chemistry.

* See *Anthropological Review*, vol. i, p. 21, *et seq.*

But here we are mostly concerned with the development theory with reference to the "primitive man." If we grant, then, that—in the words of Sir Charles Lyell—the absence of gradational forms between the recent and pliocene mammalia should only be regarded as a proof of "the weakness, in the present state of science, of any argument" [against the probable former existence of intermediate forms] "based on such negative evidence, especially in the case of man, since we have not yet searched those pages of the great book of nature, in which alone we have any right to expect to find records of the missing links"; and let it further be supposed that "when the strata of pliocene and post-pliocene date in equatorial regions" are searched, there may actually be "discovered hereafter some species more highly organised than the gorilla and the chimpanzee."* To complete this hypothetical picture, let us further suppose, in the words of Professor King (who has kindly ventured upon details which Mr. Darwin and Sir Charles Lyell have hesitated to touch), that there may be "no reason to doubt that there may have been species of the *genus* in existence [he is speaking of the *genus homo*] unpossessed of those gifts which so eminently place the existing human races, but in different degrees, above the anthropoid apes: why there may not have been a Pliocene or a Clydian species, possessed of no higher faculties than such as would enable it to erect a protecting shed, fashion a stone for special purposes, or store up food for winter, but, like the gorilla or chimpanzee, be devoid of speech, and equally as unconscious of the existence of a Godhead."†

What, after all, I ask, is gained by these various suppositions towards establishing the theory of transmutation? It is, of course, impossible to deny that there might have been a kind of superior gorilla, less brutal in the development of its back-bone and skull—as the gibbon actually is in these respects; and it is possible there may yet be discovered some forms of crania of less capacity and of inferior type to those of the Australian savage, or of the Neanderthal skull. The approximation of the crania of the apes to man, or of the man to the ape, may even be imagined to be so great, that palæontologists would be puzzled to decide, from the contemplation of the mere *caput mortuum*, whether its living owner had been a monkey or a man. The only result would be, that this point would be determined solely according to the evidence there might be that the individual to which it belonged was probably possessed or not possessed "of those gifts which do place" (it is admitted) "the human race above the anthropoid apes."

I venture to say that questions such as these cannot be decided by any geological record whatever, or any mere dead vestiges of bygone forms of existence. Apart from the physiological objections (which seem to be insuperable,) to the theory of transmutation, the grand issue to be decided by anthropologists will mainly depend upon what we can discover as to whether savage man can civilise himself or not.

* Lyell, *Antiquity of Man*, pp. 498, 500.

† *Anthropological Review*, vol. i, p. 393.

If not, there simply cannot be a doubt that "the primitive man" was neither a savage, nor his ancestor an ape. And apart from theories altogether, the existence of mankind both in a civilised and savage condition naturally suggests to us the inquiry, To which of these distinctive classes did the primitive man probably belong?

Before this question can be satisfactorily answered, however, or even discussed with advantage, it seems necessary to arrive at some definite understanding as to the meaning of the word "civilisation" with reference to anthropological considerations.

On the one hand we know that there are various degrees of civilisation among men. We know, also, that communities once civilised have the power of advancing to higher degrees of mental, moral, and material improvement. On the other hand we know how readily individuals, or even masses of the inhabitants of civilised states, may fall into a condition of intellectual and moral degradation, although surrounded with all the elevating influences of civilisation. We also know, in the language of Professor Waitz, that the savage, or "so-called lower races, do not emerge from the barbarous state in which they apparently have been from time immemorial; that they exhibit no desire to leave it; and that in spite of example and teaching they seem to remain what they ever were."* Or, if this be regarded as too strong a statement, we at least know but few, if any instances, in which a people in a barbarous state have of themselves risen to anything higher and become civilised.

We know too well how men may degenerate and become sunk in ignorance and vice. We are also aware that a state of ignorance and moral degradation may occur among men whose physical development does not differ from that of their neighbours, although the difference between their psychical characters may be as wide as between the civilised man and savage. At the same time we have evidence that by degrees, if the child follows the downward course of the degenerate parent, and a degraded family grows into a degraded community, even the physical type of a people will alter, and become, like their minds, inferior to the original stock. And here arises an important question, May this process of degradation go so far that the degraded race can never again be capable of rising to its pristine condition? In considering this point the great difference between man and other animals should not be lost sight of. When it is said that the Negro or other savages seem unimprovable, that does not mean they are utterly incapable of being taught something or of being improved to some extent. The mere animal only is literally unimprovable. Its instincts are perfect by nature, and the individual does not degenerate. Man has reason mainly to guide him; and if he does not use it he inevitably degenerates.

There are, perhaps, a few instances of what may be regarded as proofs that a people may also raise themselves from a degraded stock, and alter and improve their character, and eventually even their physical appearance. I can, however, find only one clear instance of this kind,

* Waitz, p. 328.

in the elaborate work of Professor Waitz, namely, that of the Sikhs, a religious sect, founded in 1469, by Nanaka, and which has since lived in an isolated state. Originally Hindoos of the Punjab, they are now strikingly distinguished from their nearest allied tribes, somewhat in the same degree as the Hindoos from the Chinese, by extremely regular features and an oval face. They wear long beards, and are said to resemble Europeans in face and deportment, more than do any other Asiatic people, with the single exception of the inhabitants of Cashmeer.*

It might be objected to this example, that the Hindoos, from among whom the Sikhs emerged, were not savages or barbarous, in the extreme sense; that this is only a marked instance of an advance from one degree of civilisation to another; or, that, at least, it is but an exception that would only prove the rule to which it is contrary, unless other instances can be adduced (if that be regarded as one) of a barbarous community raising itself and emerging from barbarism. All the isolated races of mankind, it might be added, which ethnological science has brought to light, who have no historical connection with some civilised race or people, have been found actually remaining in a barbarous and savage state, while many have been found in that condition, even when there have been traces in their traditions and antiquities of the connection of their remote ancestors with a civilisation they have lost. According to the geological record, all imperfect as it is yet admitted to be, we are told in Sir Charles Lyell's recent work, that "there are evidences that the plains of the Mississippi river had been occupied for ages before the French and British colonists settled there, by a nation of older date, and more advanced in the arts than the Red Indians whom the Europeans found there."†

While noticing this fresh testimony to the great antiquity of human civilisation, which goes somewhat towards proving that probably the Red Indian savages are not specimens of "the primitive man," as some have long supposed, but really a degenerate race descended from a comparatively civilised ancestry; we must carefully keep in mind that the absence of any such proof of the former civilisation of the true aboriginal Americans, would not have established the contrary. Nomadic tribes of savages sunk in barbarism, whose remote ancestors were civilised, might, of course, wander into regions previously uninhabited; in which case the local geological record could afford no evidence of the stock whence such a people might have really sprung.

But if anthropologists must not put aside such an instance of advancement, at least from comparative barbarism, as that of the Sikhs, its consideration suggests the question,—What essential characteristic or germ of superiority did these Hindoos possess, which enabled Nanaka to raise himself and them in the scale of being, compared with the original stock from which they sprang? What is this principle, so to speak, which enables a people to rise, and which probably,

* Waitz, p. 74.

† Lyell, *Antiquity of Man*, p. 39.

therefore, constitutes the essence of civilisation? What, also, is there, in their inner or outer life, common to the Sikhs and the inhabitants of Cashmeer, who are also said physically to resemble Europeans? Have the people of Cashmeer been under "intellectual influences" of an analogous kind to those which Professor Waitz assigns as the explanation of the Sikhs' superiority? This marked change in the character and even appearance of the Sikhs has occurred within a few hundred years; and it was accomplished by one of themselves, not by Christian missionaries from more civilised communities.

There is another marked instance of change, but of an opposite kind, in the physique of a people, proceeding before our very eyes, in North America. But the *desiderata* relating to that most interesting physiological transformation are as yet but meagrely supplied. It has not, I think, been stated whether it is common to all the States, North and South alike, or peculiar to certain districts more than to others; neither has it been stated whether it is peculiar to individuals of certain temperaments, or more or less marked according to temperament or the habits of life of individuals, or their original stock. What "intellectual influences" may have probably to do with it, is also left entirely unnoticed. Although the cause is generally referred to merely as climatic, I have never seen it noticed whether the effect stops short in the States, or may also be observed, more or less, in the Canadas.

Now, just as we might probably learn much more of the nature of some geological changes by observing what is actually taking place on a large scale by means of glacier action now, in the great mountain ranges of the Himalayas, than by speculating, as is chiefly the practice, upon the probable causes of past changes observed in old geological strata; so it humbly appears to me, that by far the most important anthropological desiderata will be supplied rather by an extended knowledge of the causes and effects of advancement or degradation actually occurring among the living races of mankind, than by any indefinite evidence afforded by the partial remains of previously existing peoples, or of their imbedded handywork.

Whatever may be hereafter discovered by geologists, the geological record will always likely be most imperfect. Besides, the real fact is, that geology is in much the same condition as ethnology was before the science of anthropology proper was attempted to be established. A cosmological branch of science is equally now a *desideratum*, in order to give a proper foundation to geological speculations. Most geologists in the present day seem to base their views upon the nebulous astronomical and plutonic theories, although Sir David Brewster, in *More Worlds than One*, so strongly denounced the former in no measured terms, as not only utterly unscientific and inconceivable, but as having no supporters among scientific men of any name.

Sir Charles Lyell, too, points to the fact that as yet we know little or nothing of the time required for the growth of peat; while perhaps, only a few years ago, the idea of its "growing" at all would have probably been scouted by scientific geologists. We know, also, little or nothing of the processes of petrification, and this might

almost be described as a matter that it has not at all, or scarcely, been thought necessary to investigate, though it must be very important towards attaining a proper knowledge of the periods indicated by the various geological strata and fossil remains. And (again to quote from Sir Charles Lyell), "It is more than probable that the rate of change was once far more active than it is now."* Although upheavals and depressions of the crust of the earth are now continually recognised as geological facts of the most certain kind, the probable effect of this upon astronomical observations has not, I believe, been ever noticed; though, if well considered, it might probably serve to account for and reconcile certain phenomena very recently admitted by the Astronomer Royal to be in a "*delightful state of uncertainty*."† In Geology, again, it is generally assumed that the order of deposit of fossils must necessarily indicate the order of their creation, which by no means follows; and the absence of remains of any kind in certain strata, has been held generally to prove, not only the non-existence of the undiscovered forms in the particular spots where the investigations may have taken place, but also their non-existence where the strata have not been explored throughout the whole world. The practical effect of such a false system of induction is best witnessed by the remarkable admissions contained in Sir Charles Lyell's recent work. But it must be observed that even if man (as is now at last believed) was contemporaneous with long extinct mammalia, he might have been so, and yet if living only in other regions of the earth, his and their bones might not possibly have been found together. As regards the evidences of the state of man's civilisation from the remains of his handywork, this, too, is, and must always be, but an uncertain means of knowledge. In the ancient canoes, dug up from the banks of the Clyde, Sir Charles Lyell notices the fact, that the iron nails, or bolts, evidently used in their construction, have all wasted away, while the wooden pins remain. But we can easily imagine that man in a primitive state, in a fertile country, and with but few wants not easily satisfied by nature, might be in a high state of moral and intellectual elevation, without having accidentally discovered, or even having required to invent, the difficult processes necessary to obtain metals from the ore, or to forge metallic implements. We have been told—as, indeed, we well know—how his handywork in metals might disappear, while the sharpened flints used for arrows, spears, and probably to be thrown from slings, might permanently endure.

There are one or two minor points which I would, lastly, briefly notice. We have long been accustomed to consider the teeth of man and animals as criteria that indicate the nature of their food. What explanation, then, can be given of the development of the canine teeth of the gorilla or chimpanzee into huge tusks—they not being flesh eating animals—and the non-development of such teeth into tusks in savage man, or even among cannibals? Again, the Hindoos and other races have, for generation after generation, altogether re-

* *Antiquity of Man*, p. 74.

† *Mon. Notices of Royal Astron. Society* for December 1863; *Astron. Reg.* for January and February, 1864.

frained from eating flesh : Have their teeth become modified in consequence, comparing them with flesh eating races ? If not, why not ? The desiderata on this point are most important, and remain uncollected, though there will probably be little difficulty in filling up the blank.

With regard to adopting the cranium as the test of race, or to determine anthropological questions, much is required to be settled, before this test can be logically applied. For instance, the Negro's cranium has been described as less than the European's, as approaching that of the anthropoid apes, and, at the same time, in general terms, as being "like that of a woman"—meaning a woman of the highest type of mankind. Now, if I mistake not, the European female has even a finer and more elevated form of head than the male, though its capacity is less, as the woman herself is less in bodily size generally. It is evident, then, that the form has nothing to do with the likeness between the flat head of the Negro and the Caucasian female. And, if not, this comparison would surely be better left out; for it seems to involve a physiological dilemma, when we speak of the Negro, not only as one of a different race, but probably of a different species from the European, and yet make a likeness to the European female one of the marks of difference.

Then, again, as regards the Negro, his extremely curled or woolly hair is spoken of in disparagement, and as a mark of inferiority; whereas, when the modern American is referred to as physically, at least, degenerating from the European stock whence he sprang, his straight and lank hair is pointed to as a mark of his inferiority, and contrasted with the curly hair of the European. It is to be hoped that, after M. Pruner-Bey's recent microscopical investigations on this subject, the character of the hair may be regarded as one of those varying and accidental features in races from which nothing can be determined, so far, at least, as anthropological problems are concerned.

Variations in the development of the teeth, the shape of the head, the character and colour of the hair, the lobes of the ear, etc., etc., may be observed among the children descended from the same parents on every side among ourselves. A classification of such minute points of difference, as more or less variable or invariable, would be of great value, perhaps, as regards Ethnological science, but would scarcely serve to enlighten us upon the higher problems of Anthropology. These, I imagine, must needs have reference to man's probable origin from one or many Adams, and from a civilised or savage stock. I was surprised to hear it stated that traditional prejudices were sought to be excited against such studies and against this Society. Some people seem to think that, by burying their heads ostrich-like in the sands of existing opinions, they can avoid or prevent the onward and inevitable course of truth, of reason, of knowledge. They pay but a poor tribute to revelation who appear to fear that true science, which gives but the revelation of nature's truth, can ever contradict it. But, in fact, it is not so much revelation they mostly care for, but only their own notions. They should remember, however, that the theories of

man's origin they may dislike have grown up in the absence of a science of Anthropology. They might even be tolerant of Mr. Darwin's various speculations, whether they agree with all of them or not; for it is not a little remarkable that the oldest book in the world not only gives us in its first pages the anthropological description of man's origin, which has, perhaps, become the most widespread "tradition" on the subject; but in it are also found recorded the very earliest experiments in animal breeding "of variation under domestication," and with results almost as fully successful, even then, as any which have yet been described by Mr. Darwin. Mr. Darwin quotes approvingly the old philosophical canon, *Natura non facit saltum*. But this, which truly applies to nature, may as truly be applied to natural philosophers. He, however, neglects the rule. The theory of transmutation is an extraordinary leap beyond "the origin of species by natural selection," and even that is not yet quite established. Moreover, I will venture to add, that, whether it may yet be established on inductive grounds that the human family sprang from a single pair, or from many original pairs, nothing that can possibly ever be supplied in facts or reasoning will enable rational man to come to any other conclusion than that man's origin—like all creation—must have been what we may truly call "miraculous." To begin to be, and to continue in being, are as different, and precisely so, as the manufacture of a watch is from its afterwards going. It is only in poetical language that "the child is the father of the man." In fact, in nature, and of necessity, the child cannot be without the father. The existence of a human infant without parents to beget and nourish it, is simply inconceivable, and therefore an irrational hypothesis. The existence of a man and woman, also, that have not grown up from childhood is equally inconceivable, except upon the single supposition of their being "miraculously" created and made. That once supposed, however, the existence of the human family is simple and natural. On this point, I venture to say, there are no desiderata to be supplied—the record must be considered as closed.

Mr. S. E. BOUVERIE-PUSEY thought that the Darwinian theory had not been correctly apprehended by the author of the paper. He did not agree with the doctrine of Lamarck, nor of Professor King; but it was contended by Mr. Darwin, that species may be changed by natural selection, and this hypothesis he (Mr. Pusey) considered is confirmed by the well known changes that take place in the breeding of rabbits. Whether or not it be admitted that transmutation from one genus to another can be effected, at any rate the admission that there may be a change of species, was an important one. He could not agree in thinking it wrong to have an unproved hypothesis; on the contrary, he considered the formation of hypotheses, even if not fully proved, to be consistent with scientific investigations. The differences between species and varieties vary only in degree from those of species and genera, as Mr. Darwin has shown. Not only do we see varieties formed, but varieties so different, as to approach to difference of species. The assertion, that change of species is con-

tradicted by the physiological laws of hybridity, he regarded as very questionable. The laws of hybridity have not yet been sufficiently investigated to arrive at such a conclusion. It is well known that hybrids have propagated for several generations, and facts do not confirm the supposed law that hybrids cannot reproduce their kind. A breed consisting of three parts of one species and one of another, will, indeed, continue to propagate for several generations. It was not assumed that transmutation of species was effected by sudden changes, but by long continued successive and almost insensible gradations. Mr. Pusey adduced the changes that have taken place within recent years in sheep, so as to produce the varieties of long woolled and short woolled sheep, as illustrative of the changes that may be produced by artificial selection. With regard to the assertion that if the transmutation theory were adopted, all anthropological desiderata would dwindle down to the discovery of a semi-human skull, he considered that even in that case there would remain other important matters for discussion. Whether it was admitted that man was transmuted from an ape, or whether it was agreed that all men were descended from one stock, they might yet inquire whether the differences observed among the races of mankind are specific differences, and whether it be possible to produce a Negro and white man from one another; and whether it be possible to change a Negro into a white man in the course of a number of years, say ten thousand.

Mr. A. R. WALLACE thought that Mr. Pusey had very satisfactorily shown that Mr. Reddie's paper misrepresented the Darwinian theory. If the first step of that theory be admitted—that species may be formed from varieties—it was difficult to see how a line could be drawn between such a change and transmutation. Some of the groups into which the animal kingdom had been divided by naturalists were well marked, and others not so; and of those groups that were well marked, fossil remains have been discovered which indicate an intermediate link. From this it may be inferred that the strongly marked separations we now see, have been only produced by gradual extinction of the intermediate forms during a long geological period. The doctrine of Lamarck was different from the hypothesis of Mr. Darwin, as Mr. Pusey had already shown. It is a well-known law, that animals of the same species vary from several causes; and many peculiarities are continued by hereditary transmission, and in that manner varieties may be formed. The offspring resemble their parents generally, but variations exist between them in every possible characteristic. Indeed, unless it can be shown that the power of effecting changes by natural selection be a myth, it must be admitted that it is capable of producing wonderful changes, in the same manner as it must be admitted that artificial selection produces important changes. With reference to the explanations required by the author of the paper, why the canine teeth of the male gorilla, which does not live upon flesh, should be developed into tusks, Mr. Wallace said, the difference between the gorilla and man in that respect might be easily explained. The gorilla used its tusks as weapons of offence, and those that had

the longest teeth mastered the others, and thus kept possession of the females, while the weaker varieties became extinct. Not a single fact had been adduced by the author of the paper to disprove Mr. Darwin's hypothesis. It has been said that the geological record is imperfect; but he, and those who supported that hypothesis, had the right to assume, that if the record were completed, it would confirm their views, and the very imperfection of the record may be adduced as favourable to that hypothesis. Respecting the assumed laws of hybridity, they were not altogether against it. There was, in fact, almost as much evidence on one side as on the other. With regard to the special question: how the different races of man could have originated? it appeared to him that those who totally object to the arguments of Mr. Darwin, Professor Huxley, and Sir Charles Lyell, should give anthropologists something in return for them; for they cannot be satisfied with mere negation. There were such wonderful analogies to the theory of transmutation in progress in nature, that it was impossible to be satisfied with the declarations of the objectors to the theory, that they did not know how such changes were effected; they ought at least to give a substitute for the theory they attempted to controvert.

Mr. C. S. WAKE was of opinion that they might grant all that Mr. Darwin contended for, without answering the question raised by the paper—the question whether the lower animals are capable of being raised to a state of civilisation? Man possesses something peculiar which qualifies him for civilisation more than the lower animals. They possess instincts, and some of them may be adapted to the habits of man, but they cannot go beyond a certain point. With man, on the contrary, there are no limits to the extent to which he may be civilized. It might be said, indeed, that if man can raise himself from the state of a savage to that of a highly civilised being, that fact would go to prove the Darwinian theory; but supposing man to possess something peculiar in his nature that specially qualifies him for civilisation, the Darwinian theory would receive no confirmation from his power to become civilised.

Mr. CARTER BLAKE said he could not coincide with Mr. Reddie in a great majority of his arguments. The principal object of the paper appeared to be to refute the theory, that man is merely the last link of the chain of being, and which would reduce the study of anthropology to a simple fraction of one common science of organic life. But what could anthropology lead to but to conclusions founded on zoological researches? The objections raised by the author of the paper to the theories supported by Sir Charles Lyell and Professor Huxley, on the ground that they are "new and startling", were considered by Mr. Blake to be of little weight. Anthropologists ought, indeed, to be certain of the fact that the Darwinian theory is truly a working hypothesis before they could speculate from it on the genesis of man. Mr. Blake was not a Darwinian in the correct sense of the word. He did not think, however, that Mr. Darwin intended to insinuate that animal life was originally derived from vegetable life, and that they belonged to the same type of creation. No such biolo-

gical solecism would have been entertained by him. It was asserted by Mr. Reddie, that the Darwinian theory was not supported, and was even opposed, by palæontological evidence; but he (Mr. Blake) thought that it received considerable support from palæontology, for it bound together a number of palæontological facts which were otherwise inexplicable; such, for example, as the partially developed rudimentary organs which several species possessed. The hypothesis of the operation of some orderly system of transmutation was the most probable explanation of those undeveloped organs, and was most consistent with observed facts. The doctrine of transmutation, he conceived, had little bearing on the opposing theories of the unity or diversity of the many varieties of man, and he objected to having the polygenists and transmutationists confounded together. The "graduated order of nature" was admitted to be a fact by Mr. Reddie. But what was that "graduated order of nature"? What was it but a succession of different types? The questions then arose: how did those types originate? And if they were the result of established laws, how could such laws be opposed to any physiological facts? The Neanderthal skull, he thought, threw very little light on the question, and he should make a communication to the Society on that subject on a subsequent evening. Allusion was made in the paper to the discovery, on the banks of the Mississippi, of the remains of a nation more civilised than the Red Indians, but though those relics of a former race were of great antiquity, they were modern in the sense in which geologists apply the word, probably quite modern as compared with the history of mankind. He protested against the manner in which the author of the paper had spoken of geological evidence. He did not know that any geologists had used such arguments as those ascribed to them, and if they ever did so, at least, such opinions were not entertained at the present day. As to the hypothesis that the sharpened flints found in the drift were thrown from slings, such a hypothesis did not account for them, except it were supposed that in various localities battles must have been fought; such an improbable theory must remain unaccepted. With regard to the resemblance of the Negro cranium to that of European women, Mr. Reddie must have mistaken what was said in the paper to which he alluded. There was no stress laid on the peculiarities of form, but merely on the size of the skulls. The shape of the two crania differed very considerably, and there was no danger of any person at all acquainted with the subject mistaking a true West African Negro cranium for that of an European, whether male or female. The woolly hair of the Negro had been referred to, not as a mark of inferiority, but only as a specific difference. In the able article written by Dr. Pruner-Bey, inserted in the last number of the *Anthropological Review*, he considered the hair an essential character of race. Mr. Reddie had referred to the oldest book in the world as giving the anthropological description of man's origin; but there was historical evidence in the Nabathæan records on that subject, hinting at the tradition that human beings existed long before Adam. It was curious to observe how old traditions and exploded opinions were in the course of years revived and brought forward as new subjects for speculation.

There was, for example, an old book about our parents in Paradise, in which the author speculated at great length on the question whether Adam and Eve had umbilical cords, and the same speculation was revived a few years since in a book written by Mr. Gosse.

Mr. BENDYSHE could not perceive how the transmutation theory could get rid of the polygenous theory. Mr. Reddie appeared to suppose that, admitting the transmutation theory, man must have descended from a single ape; but that by no means followed. Man might have descended from several different apes. The question of the origin of man from one or from many Adams, was not settled at all by the transmutation theory. The opinion expressed by the author of the paper, that "nothing that can possibly ever be supplied in fact or reasoning will enable rational man to come to any other conclusion than that man's origin must have been miraculous," appeared to be strangely inconsistent with the assertion, in another part of the paper, that anthropology claims to be established as a natural and inductive science.

Mr. REDDIE explained that induction might lead us to believe in a miraculous theory as the only explanation of existing facts, when natural laws would not account for them; but it could never justify our believing in a *natural* reversal of the laws of nature.

Mr. BENDYSHE continued. He conceived that anything miraculous must be produced by a reversal of the laws of nature. On the question of man's origin, it appeared to him that those who talked about the origin of man being miraculous, did not assist at all in solving the mystery. Suppose, for instance, that the original man appeared suddenly on the earth: we should say that such a sudden appearance must have been miraculous; but, if that phenomenon were repeated, and occurred at certain periods, then, indeed, it would become a law of nature. The supposition, that the origin of man was miraculous, would afford no explanation of the fact, which would be as difficult to imagine as ever. It would surely be better to use the word "inconceivable."

Mr. PUSEY added a few remarks, in reference to the observations in the paper, on the development of canine teeth in the Hindoos. He said that the Hindoos do eat the flesh that has been offered in sacrifices.

Mr. G. E. ROBERTS made some observations in reference to the alleged imperfection of the geological record. He thought it was so imperfect, that there was little reliance to be placed on the evidence to be drawn from it, either on one side or the other. He felt sure, indeed, that the state of palæontological knowledge was such, that it was not possible to draw any conclusions on a great scale from the discoveries that have been made. The rapidity of the change of opinion respecting the organic remains found in the succession of rocks was so great, that it showed no dependence could be placed on such conclusions. He agreed with Mr. Wallace and with Mr. Blake, in thinking that the author of the paper had not fully comprehended the theory of Mr. Darwin; but the subject was so comprehensive, that it was difficult to arrive at definite conclusions respecting it. In confir-

mation of the remarks of Mr. Blake, about the recurrence of speculative opinions in cycles at different times, he mentioned that he had lately seen a pamphlet in which the occurrence of flint implements on the earth was attributed to the agency of fallen angels, and the same opinion he had seen expressed in an old geological work.

The PRESIDENT thought the meeting were much indebted to Mr. Reddie for having elicited the interesting discussion that had taken place, and for endeavouring to show the desiderata which anthropology now requires. He did not wish to say much on that occasion respecting the origin of man, and though he did not agree with Mr. Reddie in his conclusions, he thought anthropologists should feel obliged to him for putting the drag to the coach, which he might think was going too fast down the hill. Mr. Reddie considered that some anthropologists were too hasty in their generalisations; but it appeared that he himself was liable to the same imputation, when he asserted that no rational man could come to any other conclusion than that man's origin must have been miraculous. Mr. Reddie said that, according to the transmutation theory, the ape was assigned to man for an ancestor, mediately through the Negro, and that such a supposition was not to be tolerated as a working hypothesis; but it might be asked, is the supposition of special creation and miraculous creation a good working hypothesis? It should be borne in mind that the historical period is comparatively very short indeed, and it would be a wonder if in that space of time anything should be discovered to confirm the theory of transmutation. It was an important question bearing on the subject, whether it is possible to civilise savage races; for if that were impossible it would throw a doubt on the possibility of transmutation. This was the most forcible argument Mr. Reddie had adduced. The historical period was, however, too short to enable anthropologists to draw any definite conclusions as to what might be done in the course of a much longer series of generations by the selection of species, and by other causes. With regard to the resemblance of the European female brain to that of the Negro, all observers agreed that there was a resemblance, and that the brain of the female Negro, so far as the mere capacity went, resembled more nearly that of the ape—the cerebral capacity of the female being the smaller in all cases. Such were the facts; let the conclusions drawn from them be what they might. With respect to the woolly hair of the Negro, it was not said that that indicated inferiority of race, it was merely noticed as a distinction. Mr. Reddie asserted that no rational man could come to any other conclusion than that man's origin was miraculous; but it did not appear to him (the President) that any rational man would arrive at that conclusion. There was, in point of fact, nothing irrational in the theory of transmutation. There was a grand idea in it. It conceived the gradual working out of a grand design or the operation of a few fixed laws, and it ought to inspire us with grander feelings with regard to the phenomena of animated nature than would the idea of continual supernatural interference with physical laws. There was no necessity for the assumption of miraculous interposition, which supposition he conceived to be most unscientific and irrational.

Mr. REDDIE, in reply, said he had heard nothing to shake the conclusions at which he had arrived in the paper he had read. He hoped the arguments that had been brought forward against it would be printed, and that they would stand side by side with his own. The paper was intended to be suggestive. He meant only to dispute Mr. Darwin's theory so far as the mere origin of species is concerned; but even Mr. Darwin himself had not professed quite to have proved so much, and still less the theory of transmutation. Professor Huxley's mode of supporting it he considered not to be scientific, because he admits it to be contrary to certain inductive facts in physiology, which he at least recognised, though Mr. Pusey now disputed them, and Mr. Wallace seemed to regard them as questionable. M. Wallace's theory as to the development of canine teeth in the gorilla is also something perfectly new in physiology, and very curious, whether applicable or not to the teeth of all other animals. With regard to Mr. Bendyshe's remarks on the miraculous theory, that gentleman did not seem to consider that the question of the origin of man must differ essentially from that of the continuance of the species. Even Mr. Darwin is obliged to *begin* with a "miraculous" *breathing of life by the Creator* "into a few forms, or into one"; and, if only "into one", which is what the transmutation theory aims to establish, then it is clear Mr. Darwin has really entertained the biological solecism which Mr. Carter Blake has considerably repudiated on his behalf. Mr. Bendyshe's suggestion of more apes than one, to reconcile transmutation with the polygenous theory, is at any rate something new; but if these apes are all to be found in the "equatorial regions", to which alone Sir Charles Lyell refers us for a search, we are still relegated to the "unimprovable" Negro races for the first ancestor of civilised man! If it could be established that the low type savages could thus raise themselves, one difficulty in this theory would be got rid of—that would be all. But, if this cannot be established, the theory is incredible, as being impossible. As regarded the absence of palæontological facts to support the transmutation theory, Mr. Roberts had fully answered what had been said by Mr. Wallace; and it is Sir Charles Lyell and Mr. Darwin who have so far discredited the known geological record as to assert that the things which have been discovered were as nothing compared with the things which had yet to be ascertained. It was not, however, for him to disprove the Darwinian theory, but it was for the advocates of that theory to prove it, and to face the consequences to be drawn from it. It was at best, he contended, founded on negative evidence, and was contrary to reasoning by induction. It not only wanted testimony of a positive kind to support it, but it was opposed by the positive facts of hybridity. It was impossible to cross animals that were of well-marked distinct species, as well as those of altogether a different genus. He did not deny that varieties may be obtained by selection, but he objected to the jump from one species or genus to another. Different kinds of sheep may be produced by selection, but did a sheep ever become a wolf? He offered the suggestion as regards the flint implements having probably been used to be thrown from slings, because

of the large quantities of them generally found together, and because the ordinary, and what might be called the stereotyped, explanation of this circumstance was so lame. It was usually said that these quantities were probably found where there had been "flint manufactories"; forgetting that the idea of a manufactory implies a knowledge of the division of labour in a community, and is almost absurd as applied to the uncivilised and savage races of mankind. With respect to the inhabitants of Cashmere, it may be observed that they are Mohammedans; so that they and the Sikhs have this in common, that they are both rigid Theists, and adverse to all idolatry.* In conclusion, he observed that nothing had been urged in the course of the discussion that was materially against the arguments he had advanced, or which seemed to require further reply.

The meeting then adjourned.

ORDINARY MEETING.—FEB. 16, 1864.

SIR CHARLES NICHOLSON, BART., V.P., IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The secretary read a list of the presents received by the Society since the last meeting, and thanks were voted for the same to George Witt, Esq., and to M. Morlot.

The names of the following new members were announced:—Arthur W. à Beckett, Esq.; Rev. P. A. Newnham; Franklin Richards, Esq.; Alexander Michie, Esq.

The following paper was then read:—

On some Pre-historic Dwellings in Ross-shire. Extracted from Letters received by Mr. GEORGE E. ROBERTS from the Rev. J. M. JOASS, M.A. With an Introduction by GEORGE E. ROBERTS, F.A.S.L.

THE existence of many curious stone-encircled dwelling-spots of pre-historic age in Ross-shire has long been known, but I do not think any archaeologist has taken them definitely in hand, and certainly no anthropologist has endeavoured to connect them with a particular ancient people. In form these "lodges," as we may almost call them, are flat spaces chosen out of the moorland, generally along a line of terrace, or upon a rising elevation, and marked out as a habitation by being girt about with a single line of whatever large stones, or rock-fragments, the neighbourhood furnished. Generally, their

* In Mr. Winwood Reade's interesting work on *Savage Africa*, it will also be found, that even some of the Negro tribes are now being visibly improved through the same influence of Mohammedanism. This, Mr. Reade attributes mainly to the pure Theism of that religion, its severity against all idol-worship, and the discipline of its fasts and other rigid rules; as well as partly to its social influences—the Negroes being made converts, and then treated more as servants and "brethren" than mere slaves. We ought to learn some important lessons from these facts on both sides of the Atlantic. J. R.

diameter is about six to eight yards. In the centre was planted the hearthstone, a slab chosen for its qualities of smoothness and flatness. Around and about this, bones of the animals eaten are to be found, beaten and trampled into the ground, and mixed with some few shells, and with fragments of charred wood. The appearance of this compost being much the same as that of the great slabs of stalagmite now being exhibited in London, which formed the floor of the bone-cave of Leo Eyzies in the Pyrenees, except that no stalagmite is present. To several of these I paid a somewhat rapid visit last summer, while staying at Tain; the most typical being two situated upon a rather high moorland about two miles west of Edderton. My stay was, however, too short to permit any explorations to be made within the limits of these stone-circled residences, or to ascertain whether the hypothesis that they were tenanted only during the summer months by the ancient hunters and fishers on the Dornoch seaboard, could be borne out by the discovery of a subterranean room of this primitive house. Since I left Scotland, these investigations have been carried out by my friend, Mr. Joass, with what success, his letters show. I may remark, in introducing the subject, that although not so strictly anthropological as papers read at this Society usually are, still it appears to me that the study of man, in an historical aspect, one of the stated objects of this Society, demands the largest and fullest amount of archæological aid which a pre-historic antiquity can give.

The following are the extracts from the letters I have received from Mr. Joass. The dwelling-spots described are illustrated by his own excellent pencil. After alluding to an immense mussel-midden near the Caithness marsh, which, however, presents no new features, he writes:—"Our principal explorations, however, were in a glen running from Helmsdale, about four miles up which the sketch was made, marked No. 1 on accompanying sheet. The first antiquity observed was a circle *A*, 48 feet in diameter, and formed of rude boulders and smaller stones, now nearly grass-covered, with an opening to the south-east. Here we made no diggings, as we wished to press on to the examination of another circle and subterranean passage, described by our friend, of which more hereafter. From *A* were visible *B* and *C*, which I had previously explored, and a heap of stones, well up on the hill to the right at *D*, which I had not seen before, but which, even at that distance, looked tempting. *B* (represented to scale in fig. 2) is a long cairn, 142 feet long, and 10 feet high. It consists of small river-rolled stones, and has at its higher end a small opening, through which I entered on a former occasion, and penetrated to a distance of 12 feet along a passage 3 feet high and 2 wide, formed by rude upright stones, roofed by similar slabs. The passage from the narrow opening at *a* was somewhat downwards, as attempted to be shown in section. At *b* the roof had fallen in, and prevented further progress. I found near *c*, between two of the upright stones and a roof slab, the top of a human skull, uncommonly thick, and a periwinkle; *c*, fig. 1, is represented in fig. 3 and in section 4. It looks like a kiln; but

there are several similar structures within a few hundred yards of it, nor could I find a scrap of limestone near (it is a granite district), nor ironstone either, although on the river bank, about half a mile off, there is a great quantity of iron slag. From this point we pushed onwards and upwards to D, fig. 1, and found it to be a ruined (Pictish?) tower, as sketched, 5. It is situated on the shoulder of a hill, commanding a most extensive view towards the north, south, and west, and is surrounded by fallen stones, enough to have raised it to a height of 30 or 40 feet. The accompanying plan and sections will help to understand it. At E (fig. 6) there was exposed what seemed part of a passage in the wall, but which was blocked up by *débris* in both directions. At F there was an entrance, roofed by three large slabs, not in contact; the doorway was about 3 feet wide, the roof (of the doorway) being about 10 feet above the level of the interior at the centre of the tower. The true height of the entrance could not be measured on account of the *débris*. From A to E, and from F to E (fig. 6), the ground was comparatively level, as shown in section (fig. 7). The fallen stones extended from the top of the wall to the bottom of the moat on the north-east and south-west at C and D. The scale of feet given will indicate the dimensions.

"About a quarter of a mile off, on a small shelf or terrace marked A (fig. 5), there is a circle, similar to A (fig. 1). In its inner circumference at A (fig. 8) there is a small opening, creeping backwards into which with some difficulty, and lighting a candle, we found ourselves in the subterranean passage referred to at the beginning of this note. From its entrance at A (fig. 8), it follows the line of the circle to B, at which point the roof is probably 6 feet below the surface, on which, by the way, there lay no rubbish or stones to indicate that the circle had once been the base of a higher structure. 30 feet from the entrance, and 3 feet from the end of this passage, there is a trap or square opening in the roof, closed from above by irregular stones (fig. 9). The dimensions of the chamber or passage are here, and till within a few feet of the entrance, width, $3\frac{1}{2}$ feet, height, 5 feet. What in the world was it made for? Was it the sleeping apartment or the winter residence of those who occupied the upper circle in summer, as other similar circles are said to have been used by the pre-historic people? One solitary shell, a periwinkle, was all we found, after peering into every cranny; we intended letting in the unwonted light of day by clearing the trap, but time failed us."

Sir CHARLES NICHOLSON said that over the whole of the northern parts of Scotland erections similar to those described in the paper have been occasionally found, consisting of either a circle of stones, or sometimes covered with a slab. Whether they were originally intended for houses, or forts, or for sepulchral purposes, appeared doubtful. When in the Orkney Islands last autumn, he saw a well-known erection of this description, the Maes-howe, in which there were numerous Runic inscriptions, and that building there was no doubt a place of sepulchre. The erection marked B in the diagram appeared to be of the same character. In the one that was

entered by Mr. Joass, in which the height of the passage was stated to be only four feet, it was evident that it could not have been used as a dwelling. A gentleman residing at Kirkwall had informed him that he had discovered the foundations of three or four circular buildings that might have been used as forts, and that he there found the remains of *Bos primigenius*, which animal is not existing in Scotland at the present time. Some of those erections were unquestionably places of sepulchre, and in such there were generally found two skeletons in the same tomb; the skull of one being most frequently of a lower type than the other. The theory of Mr. Wright to account for the presence of the second skeleton was, that when a chief or other great person died, one of his slaves was buried with him. The question remained to be decided whether the second person so entombed was of an inferior race. Similar remains to those described by Mr. Joass are also found very extensively on the Cheviot Hills.

Mr. ROBERTS said he had carefully examined a great number of these remains, and he was able to distinguish the difference between those that were dwelling places and those that were forts and places of sepulture; but he admitted that the differences between them were sometimes difficult to be distinguished.

Mr. CARTER BLAKE said that, after the last meeting of the British Association, he visited Mr. Tate, at Alnwick, and under his guidance he went to see some of the antiquities on the Cheviot Hills. In a most sequestered part, and near the highest peak of that range of hills, there is a large series of edifices, precisely of the same architectural *status* as those noticed by Mr. Roberts, and which had been well described by Mr. Tate. The period of time to which they belonged was somewhat doubtful, and it might be questioned whether the archæological divisions of stone, bronze, and iron periods could be depended on as correct indications of relative antiquity, for iron implements are sometimes found in collections of Celtic remains. Mr. Blake begged to add his testimony to that of Mr. Roberts to the able and energetic manner in which Mr. George Tate, of Alnwick, has, not only without assistance, but in spite of opposition, worked up the subject of those so-called Celtic, undoubtedly pre-historic, antiquities in his neighbourhood.

Dr. T. B. PEACOCK, F.R.C.S., then read a paper on *The Weight of the Brain of the Negro*. (This paper will appear in the Memoirs of the Society).

Dr. PEACOCK, at the conclusion of his paper, observed, in reference to the statements on former occasions by Dr. Tiedemann and by Dr. Hunt, respecting the smaller size of the brain of negroes, that it was very probable the difference between their statements and those in his paper might have arisen from the difference in the times after death that the brain was weighed. The brain, if kept in spirit, loses much of its weight. A brain which soon after death weighed forty-nine and a half ounces, he had afterwards weighed at different times, the weight each time being less than before, until it was reduced to thirty-nine ounces. A brain that had been kept in spirit four years lost as much as one-third its original weight. He thought, there-

fore, that the weights of the brain of negroes given by Dr. Tiedemann and Dr. Broca were not much to be depended on.

Mr. CARTER BLAKE stated that Dr. Broca had been engaged for a long time in making investigations on the subject of the brain in negroes, though no result had yet been made public. The observations of Dr. Peacock were grounded on a greater number of experiments than had been previously made, and were consequently of due value.

Dr. PEACOCK remarked on the difficulty of making such observations, as pure negroes seldom die in an English hospital. The observations in his paper had been accumulating for eighteen years.

Mr. CARTER BLAKE added that observations on the brain of the mulatto, of the most valuable character, had recently been made by Mr. Travers, the surgeon of the Charing-cross Hospital.

Mr. CARTER BLAKE then made a communication "on the Neanderthal Skull," a cast of which was placed on the table for examination, and a cast of the skull of a gorilla, as well as two negro skulls, was also placed by its side. Mr. Blake said:—

On the alleged Peculiar Characters, and Assumed Antiquity of the Human Cranium from the Neanderthal. By C. CARTER BLAKE, Esq., F.G.S., Hon. Sec. A.S.L., Foreign Associate of the Anthropological Society of Paris, etc.

I have now the honour to lay before the Society a cast of the "Neanderthal Skull," exhibited by Mr. J. R. Gregory (25, Golden Square, W.), and to call your attention to the descriptions of this skull which have appeared in the works of Fuhlrott, Schaffhausen, Busk, Huxley, Professor William King (of Galway), and myself,* copies of all which I place on the table, in order that members may have the opportunity of comparing the various discrepant opinions to which the discovery of this skull has given rise. The author of a paper has, I submit, a perfect and inalienable right to quote from his own writings; and as I have twice already told the tale of the Neanderthal skull, even in the pre-Lyellian age of the controversy, I shall make no excuse for making such copious extracts from my own previously published opinions, as may, according to my judgment, render the whole subject, alluded to in this avowed compilation, easier of solution. I shall afterwards read extracts from the writings of other palæontologists; I shall append a translation of the valuable *Memoirs*

* Fuhlrott. *Menschenliche ueberreste aus einer Düsselthals.* Bonn: 1859. Schaffhausen. *Natural History Review*, 1861, p. 160.

Busk. *Natural History Review*, 1861, p. 160.

Huxley (in Lyell's *Antiquity of Man*), 1st Edition, p. 80. (*Man's Place in Nature*, 8vo., London, 1863.)

Medical Times and Gazette, June 28, 1863.

Professor W. King. *On the Reputed Fossil Man from the Neanderthal.* (*Quarterly Journal of Science*, Jan. 1864.)

C. Carter Blake. *On the Occurrence of Human Remains Contemporaneous with those of Extinct Animals.* (*Geologist*, Sept. 1861, p. 395.)

C. Carter Blake. *On the Cranium of the Most Ancient Races of Men.* (*Geologist*, June 1862, p. 206.)

of Dr. Schauffhausen and M. Pruner Bey, and I shall conclude by a few remarks on the paper which Prof. King (of Galway) has recently published on this subject.

In September 1861, subsequent to the publication of Schauffhausen's and Busk's papers in the *Natural History Review*, I communicated a short note to the *Geologist*, in which I alluded to the following facts: "The most important, because the most recent, and the most generally canvassed human relic is that which Dr. Schauffhausen, of Bonn, has recently published, with remarks by Mr. George Busk, F.R.S., in the *Natural History Review* for April 1861. According to this statement 'in the early part of 1857, a human skeleton was discovered in a limestone cave in the Neanderthal, near Hochdal, between Düsseldorf and Elberfeld'. The opinions of geologists in Germany seem united to corroborate Mr. Busk's conclusion, that there can be no doubt of the enormous antiquity of this skeleton (found under a deposit of four or five feet of mud on the floor of the cave), and of the probability of its having belonged to what is termed the quaternary period. As, however, I know of no English geologist who has stepped forward to corroborate this theory, I hope that some of the many and intelligent readers of the *Geologist* may be led to consider the question.

"To the palæontologist this skull offers a source of interest, inasmuch as it exhibits a singular character, hitherto supposed to have been peculiar to the highest apes. All those persons who have seen the gorilla in the British Museum, or who have read M. du Chaillu's descriptions of its habits, must have been struck with the large and prominent supraciliary ridge which makes a development from the frontal bone, which gives to the animal that penthouse-like scowl over its eyes, and in which a crest of black prominent hairs is inserted, which greatly contributes to enhance the terrific appearance of the old male gorilla. This supraciliary ridge is characteristic of the genus *Troglodytes*; and in the chimpanzee it is also present, but to a less extent than in the gorilla. In this latter species a large amount of this elevation is due to the development of the space called by anatomists *frontal sinus*, which is a large cavity, divided into two portions by a perpendicular osseous partition, and lined with a continuation of the pituitary membrane, secreting the lubricating mucus discharged into the nose. This frontal sinus, Prof. Schauffhausen thinks, is the main cause of the production of the enormous supraciliary ridge in the Neanderthal cranium, as it is in the gorilla. Mr. George Busk dissents from this theory, and points out that in many recent crania of savage and barbarous men a considerable frontal elevation exists, in which no extraordinary expansion of the sinuses occurs; and Sir William Hamilton (*Metaphysics*, ii, p. 425) asserts, 'it is an error of the grossest, that the extent of the sinus is indicated by a ridge or crest, or blister in the external bony plate. Such a protuberance has no certain, or even probable, relation to the extent, depth, or even existence of any vacuity beneath.' In the Papuan and Australian races of men, which approach nearest to the ape in their cranial conformation, no frontal sinus whatever exists,

whilst a rather considerable frontal elevation is exhibited; whilst in the chimpanzee in which a remarkable supraorbital development exists, no frontal sinuses have been discovered.

"Professor Schaufhausen gives the measurement of a humerus, and radius, with two femora, in a perfect condition, and of part of ulna, humerus, ilium, scapula, and ribs; and it appears from his statements, that they exhibit characters of a human race, far transcending the present as regards power of muscle, as indicated by the thickness and rugosity of the bones.

"The presence and degree of development of the frontal sinus in the human and simian forms, are as follows:—

		Superciliary Arch.	Frontal Sinus.
1	..... European.....	Small.....	Large
2	..... Papuan.....	Rather large.....	None
3	..... Neanderthal skull.....	Large.....	?
4	..... Gorilla.....	Very large.....	Large
5	..... Chimpanzee.....	Large.....	None

"The above shows the difficulty of predicating the amount of the frontal sinus by the development of the supraciliary arch." And I then proceeded to state that "We find in the Neanderthal cranium a very fair development of brain, and in the general shape of the skull (the supraciliary ridge apart), we find nothing which approaches to the gorilla. No interparietal crest, obliterating the sagittal suture, extends along the head; and although the hinder part of the skull is broken away, we cannot infer anything which approaches to an occipital or lambdoid crest. None of the other characters which so prominently differentiate the human from the simian sub-kingdoms are to be found in this ancient skull. It is not cerebrally inferior to the Papuan or Negro races.

"Was this man from the Neanderthal of the same species as that which now dominates over the animal creation? Dr. Latham, in his *Ethnological Aphorisms*, says, "that all existing varieties of man may be referable to a single species, but there may be certain species which have ceased to exist." Should this Neanderthal man have proved an intermediate species between the Papuan and the gorilla, a great point of controversy would be gained by the transmutationists; but the failure of the proof which Dr. Schaufhausen has brought forward, leaves the human species as far from the apes as it was when the author, who founded the genus *Homo*, placed it apart from the other Primates." And concluding a short paper, in which other evidences of ancient human remains had been discussed, I said,—

"It seems, therefore, irrefragably proved that the human species existed in Europe in the post-pliocene age, in, as well as we can judge from the 'celts' of Abbeville, a state of semibarbarism. However sparse the population, he still found some enemy to contest with him the products of the forest, and the spoils of the chase. His vast solitude, compared with the present activity and teeming millions of modern Europe, reminds the contemplative observer of the beautiful exclamation of the patriotic Espronceda,

"Cuan solitaria la nacion que un dia
Poblara inmensa gente!"

"We have thus evidence of the existence of man-Man, the highest brained (archencephalate, Owen) individual of the highest sub-division of known *Mammalia*, in whose image the most specialised adaptation of structure to fixed purpose is superadded to the original type of created animal life, which great Archetype was conceived by a Divine Mind, millions of years prior to the advent of the human race." I certainly did not consider the Neanderthal skull as affording such peculiarities as would enable us to consider it as a distinct species of man.

In a subsequent paper, inserted in the *Geologist* for June 1862, "On the Crania of the most Ancient Races of Men," I further expressed my opinions regarding this skull at greater length. While this paper was going through the press, Professor Huxley, F.R.S., kindly permitted me to inspect the cast of the Neanderthal skull in his possession. It is my duty to acknowledge the great courtesy on his part by which these and other facilities, relating to cognate subjects, were given to me by that distinguished palæontologist. After due and diligent examination, however, I saw no reason to infer that it represented a distinct species or race to that which inhabits modern Europe. The following conclusions were then promulgated by me:—

"The apparent ape-like, but really maldeveloped idiotic character of its conformation is so hideous, and its alleged proximity to the anthropoid *Simia* of such importance, that every effort should be made to determine its probable date in time. That such efforts have not been made, and that the evidence at present in possession of English palæontologists is wholly inadequate to enable us draw any conclusion as to its being the representative of any given type of mankind, living or extinct, is the object of the following observations:

"The fact has not yet been conclusively demonstrated to the satisfaction of English geologists that the Neanderthal skull is of high antiquity. The time required for the deposition of the four or five feet of mud in the cave might have been accomplished in a comparatively short space of time. It is not stated at what height in the deposit the bones were found.

"Dr. Schauffhausen's statement, 'that the bones adhere strongly to the tongue, although, as proved by the use of hydrochloric acid, the greater part of the cartilage is still retained in them, which appears, however, to have undergone that transformation into gelatine which has been observed by Von Bibra in fossil bones,' is hardly precise enough to convince practical geologists of the antiquity of the skull. But of the Engis cranium no such evidence is afforded us. It is hardly necessary to repeat the arguments made use of by Buckland against Schmerling at the meeting of German naturalists at Bonn, which proved the less degree of gelatine in the fossil hyæna bones than in the human remains from the Belgian cave deposits. The condition of the Vale of the Trent skull, which has been apparently immersed in glue or some analogous liquid since its disinterment, has deprived us of the only chemical evidence which could have decided the question of its antiquity. Professor Huxley admitted to his audience at the Royal Institution (Feb. 7, 1862) that,

with respect to the Neanderthal cranium, 'its great antiquity was not directly proved, although its date was undoubtedly very early.'* Professor Huxley went to say, that in the Museum of the College of Surgeons there are Australian skulls which closely correspond in configuration and development with those of the caverns of Engis and the Neanderthal, the differences between which latter were 'hardly greater than occurred between individuals of that race, while in form the ancient and Australian skulls presented many analogies.'

"There are several suspicious circumstances connected with the Neanderthal cranium, *e. g.* the pathological enlargement of the coronoid process of the left *ulna*, apparently from an injury during life; the peculiar rounded shape and abrupt curvature of the ribs, analogous in their appearance to those of a carnivorous animal; Professor Schaufhausen supposes this malformation to arise from an unusually powerful development of the thoracic muscles. All these characters are compatible with the Neanderthal skeleton having belonged to some poor idiot or hermit, who died in the cave where his remains have been found. They are incompatible with the evidences which might be left in a Westphalian bone-cave of the remains of a normal healthy uninjured human being of the *Homo sapiens* of Linnæus."

With respect to the prominent supraorbitals in the Neanderthal skull, I thus expressed myself:—

"The broad ground may be admitted, that the earliest Briton skulls generally exhibit a supraorbital projection, which attains in its development, however, nothing like the size of the ridge of the Neanderthal cranium. The majority of the British, Hibernian, and Caledonian skulls figured by Messrs. Davis and Thurnam† exhibit a large supraorbital ridge. This character is also present in a few of the Saxon skulls.

"The supraorbital development of the Briton skull from Ballidon Moor‡ is fully equal to that of the Engis cranium. The Neanderthal skull, however, admittedly stands *sui generis*.

"The Museum of Natural History at Copenhagen contains skulls of the 'Stone Period' in Denmark with an excessive supraorbital projection.

"Aboriginal American races of high antiquity often exhibit a large supraorbital development. This may be seen on examining Morton's§ plates of the Peruvian from Pachacamac ('Temple of the Sun'), plate 11A, and the skulls of mound-builders from the Upper Mississippi (plate 52), Tennessee (plate 55), and Steutenville, in Ohio (plate 68).

"The frontal development of the Australian race, accompanied by an absence of the frontal sinus, has been frequently noticed, and several Australian skulls have the supraorbital ridge overhanging the origin of the nasals to the degree shown in the skulls from Engis and the valley of the Trent.

* Medical Times, February 15, 1862.

† Crania Britannica. 4to and folio. London: 1856.

‡ Loc. cit.

§ Crania Americana. Philadelphia: 1839. In a Pachacamac skull before me there is a very slight supraorbital development.

"Supraorbital development in the Negro is far from being a constant character. It is undoubtedly present in many of the lower Negroes, but I have now before me a skull from Ashantee which exhibits less supraorbital development than many of the skulls from the 'Stone Period' in Denmark.

"In India, the range of variation offered by the hill-tribes of Nepal exhibits the supraorbital ridge under a variety of aspects. The low-caste individuals, perhaps of all nations, have a greater tendency to repeat this character than the more elevated types. In Europeans, however, of high intellect, this conformation may frequently be remarked; and I have observed it in more than one person with whom it was correlated with a high degree of mental ability."

For various reasons, the opinions which I then put forth were opposed to the popular belief with regard to the Neanderthal skull. Some writers authoritatively declared that we had at last discovered the "missing link" which binds together man and the apes. These opinions were, however, opposed, and I extract the following passage from a criticism on my last quoted paper in the "Medical Times and Gazette," of June 28, 1862:—

"The Neanderthal cranium has been already described in this journal. It is only necessary to remind the reader that its characteristics are the extraordinary size of the supra-orbital ridges, which are continuous over the root of the nose, and a remarkably low retreating frontal development, which together give to the skull a markedly simian look. We strongly suspect that Mr. Blake is right in the conjecture he throws out, that this skull belonged to some poor idiotic hermit whose remains were found in the cave where he died. Professor Schaufhausen tells us that the other portions of the skeleton presented deviations from the normal human form. The ribs exhibited a peculiarly rounded shape and abrupt curvature, which he refers to an unusually powerful development of the thoracic muscles. The coronoid process of the left ulna was enlarged, apparently from injury during life. The description strongly reminds one of Sir Walter Scott's Black Dwarf. A theory of rickets and idiocy would, we suspect, go some way towards unravelling the mystery."

The publication of Sir Charles Lyell's and Professor Huxley's works naturally gave an increased stimulus to the consideration of this curious skull. As, I hope, these valuable works are within the reach of every anthropologist in England, I shall here be excused from quoting any more than the following passage from the former volume, containing some of the observations of Professor Huxley on the Neanderthal skull.

"The Neanderthal skull, with which also I am acquainted only by means of Professor Schaufhausen's drawings, of an excellent cast and of photographs, is so extremely different in appearance from the Engis cranium, that it might well be supposed to belong to a distinct race of mankind. It is 8 inches in extreme length and 5·75 inches in extreme breadth, but only measures 3·4 inches from the glabella-

occipital line to the vertex. The longitudinal arc, measured as above, is 12 inches; the transverse arc cannot be exactly ascertained, in consequence of the absence of the temporal bones, but was probably about the same, and certainly exceeded $10\frac{1}{4}$ inches. The horizontal circumference is 23 inches. This great circumference arises largely from the vast development of the superciliary ridges, which are occupied by great frontal sinuses whose inferior apertures are displayed exceedingly well in one of Dr. Fuhlrott's photographs, and form a continuous transverse prominence, somewhat excavated in the middle line, across the lower part of the brows. In consequence of this structure, the forehead appears still lower and more retreating than it really is.

"To an anatomical eye the posterior part of the skull is even more striking than the anterior. The occipital protuberance occupies the extreme posterior end of the skull when the glabello-occipital line is made horizontal, and so far from any part of the occipital region extending beyond it, this region of the skull slopes obliquely upward and forward, so that the lambdoidal suture is situated well upon the upper surface of the cranium. At the same time, notwithstanding the great length of the skull, the sagittal suture is remarkably short ($4\frac{1}{2}$ inches), and the squamosal suture is very straight.

"In human skulls, the superior curved ridge of the occipital bone and the occipital protuberance correspond, approximatively, with the level of the tentorium and with the lateral sinuses, and consequently with the inferior limit of the posterior lobes of the brain. At first, I found some difficulty in believing that a human brain could have its posterior lobes so flattened and diminished as must have been the case in the Neanderthal man, supposing the ordinary relation to obtain between the superior occipital ridges and the tentorium; but on my application, through Sir Charles Lyell, Dr. Fuhlrott, the possessor of the skull, was good enough not only to ascertain the existence of the lateral sinuses in their ordinary position, but to send convincing proofs of the fact, in excellent photographic views of the interior of the skull, exhibiting clear indications of these sinuses.

"There can be no doubt that, as Professor Schaaffhausen and Mr. Busk have stated, this skull is the most brutal of all known human skulls, resembling those of the apes not only in the prodigious development of the superciliary prominences and the forward extension of the orbits, but still more in the depressed form of the brain-case, in the straightness of the squamosal suture, and in the complete retreat of the occiput forward and upward, from the superior occipital ridges.

"But the cranium, in its present condition, is stated by Professor Schaaffhausen to contain 1033.24 cubic centimeters of water, or, in other words, about 63 English cubic inches. As the entire skull could hardly have held less than 12 cubic inches more, its minimum capacity may be estimated at 75 cubic inches. The most capacious healthy European skull yet measured had a capacity of 114 cubic inches, the smallest (as estimated by weight of brain) about 55

cubic inches, while, according to Professor Schaaffhausen, some Hindoo skulls have as small a capacity as about 46 cubic inches (27 oz. of water). The largest cranium of any gorilla yet measured contained 34.5 cubic inches. The Neanderthal cranium stands, therefore, in capacity, very nearly on a level with the mean of the two human extremes, and very far above the pithecoïd maximum.

"The Neanderthal cranium has certainly not undergone compression, and, in reply to the suggestion that the skull is that of an idiot, it may be urged that the *onus probandi* lies with those who adopt the hypothesis. Idiocy is compatible with very various forms and capacities of the cranium, but I know of none which present the least resemblance to the Neanderthal skull; and, furthermore, I shall proceed to show that the latter manifests but an extreme degree of a stage of degradation exhibited as a natural condition, by the crania of certain races of mankind."

The remarks by Professor Huxley on the same subject in his *Man's Place in Nature* are chiefly an expansion of the observations by the same author in Lyell's work. They, however, contain a most interesting drawing of the lateral sinuses, to which Dr. Schaaffhausen, as will be seen in the sequel, draws special attention. On the conclusions or arguments which Sir Charles Lyell and Professor Huxley have based on the above cited facts, I shall not comment.

In the order of publication the next memoir which we have to consider is that which Dr. Schaaffhausen contributed to the Paris *Société d'Anthropologie* on the 13th of March last; I shall give the Society a verbatim translation of this important memoir, the contents of which have, to my knowledge, not previously been laid before an English scientific public.

A very able and elaborate paper appears in a new periodical, the *Quarterly Journal of Science*; Professor W. King, of Galway, contributes a paper to this periodical, which is undoubtedly of the highest scientific value in the controversy. The following new and important facts are pointed to by Professor King, in addition to those which he has derived from other observers:—

"Another differential feature characterises the fossil in question. In human skulls, even those belonging to the most degraded races, if the forehead be intersected at right angles to the glabello-occipital plane, on a line connecting the two outer orbital processes at their infero-anterior point, the intersection will cut off the frontal bone in its entire width, and to a considerable extent rising towards the coronal suture; whereas in the Neanderthal skull, the same intersection will cut off only the inferior and little more than the median portion of the frontal. This is quite a simial characteristic, and rarely, if ever, occurs in man.*

* "I have examined and made myself acquainted with skulls belonging to the principal races or varieties of man, in all of which the forward position of the forehead, relatively to the outer orbital processes, is the general rule. The Engis skull exhibits it, and the same appears to be the case with the Borreby one, judging from the figure in Lyell's *Geological Antiquity of Man*, p. 86. It

"The last peculiarity is concomitant with another equally striking. Viewing the Neanderthal forehead with reference to the situation of that portion of the brain which it enclosed, we may plainly perceive that the frontal lobes of the cerebrum have been situated *behind* the outer orbital processes. As far as I have ascertained, we cannot say this of man; for, apparently, in all existing races, whose skull has not been modified by artificial pressure, the corresponding parts of the brain actually extend in *front* of the orbital processes.*

He further applies a method of analysis, which, according to my interpretation, is novel to this investigation, and states:—

"*Occipital*.—The upper portion of this bone is quite semicircular in outline, its sutural (lambdoidal) border running with an even crescentic curve from one transverse ridge to the other: generally in human skulls, including the Engis one, the outline approaches more or less to an isosceles triangle. The width of the occipital at the transverse ridges is much less than is common to man; and the disparity is the more striking in consequence of the widest portion of the fossil occupying an unusually backward position.

"Taking into consideration the forward and upward curving of the upper portion of the occipital bone as previously noticed, its semicircular outline, and smallness of width, we have in these characters, taken together, a totality as yet unobserved in any human skull belonging to either extinct, or existing races; while it exists as a conspicuous feature in the skull of the Chimpanzee.

"*Parietals*.—In man the upper border of these bones is longer than the inferior one; but it is quite the reverse in the Neanderthal skull. The difference, amounting to nearly an inch, will be readily seen by referring to figures 1 and 2, in plate II.; the former representing the right parietal of a British human skull, and the latter the corresponding bone of the fossil. These figures also show that the Neanderthal parietals are strongly distinguished by their shape, and the form of their margins: in shape they are five-sided, and not subquadrate, like those of the British skull;† while their anterior and

may be doubted that the Plymouth skull, represented by Busk (*Natural History Review*, 1861, Pl. V, fig. 6), is an exception. I possess a very remarkable skull, probably about 500 years or more old, taken last summer out of the beautiful ruins of Corcomroo Abbey, situated among the Burren mountains, in county Clare, which offers a close approximation to the fossil in the depressed form of the forehead: indeed, although not altogether so abnormal in this respect as the Neanderthal skull, it has in appearance a better development, in consequence of the median part of its frontal being a little more rounded. There is no reason to believe that it belonged to an idiot, as it happens that most of the skulls lying about the ruins have a low frontal region. It is singular that the inhabitants of Burren a few hundred years ago should have been characterised by a remarkably depressed forehead, while those now living have a well-developed cranial physiognomy." (Prof. King.)

* "The Corcomroo skull, noticed in the previous footnote, although closely approximated to the Neanderthal one in its low forehead, and this alone, is strictly human in the forward extension of the frontal lobes of the brain relatively to the outer orbital processes." (Prof. King.)

† The outlines were taken by pressing a sheet of paper on the parietals; and, when in this position, marking their margins by following the bounding

posterior margins have each exactly the reverse of the form characteristic of man.

"The *additamentum*, which undoubtedly gives the parietals their five-sided shape, is on a level with the superior transverse ridge, and much longer than usual. This peculiarity is common to the human fœtus: I have, likewise, observed an approach to it in a 'Caffre' skull belonging to the Dublin University Museum, in which, also, the upper and lower borders of the parietals are about equal in length. But still the abnormality of the latter case is not at all so extreme as the condition observed in the fossil. These particular features also are characteristically simial; for in extending our survey to the Chimpanzee, and some other so-called *Quadrumanes*, their parietals are seen to present a great similarity to those of the Neanderthal skull.*

The following are Professor King's conclusions:—

"Besides, so closely does the fossil cranium resemble that of the Chimpanzee, as to lead one to doubt the propriety of *generically* placing it with man. To advocate this view, however, in the absence of the facial and basal bones, would be clearly overstepping the limits of inductive reasoning.

"Moreover, there are considerations of another kind which powerfully tend to induce the belief that a wider gap than a mere generic one separates the human species from the Neanderthal fossil.

"The distinctive faculties of man are visibly expressed in his elevated cranial dome—a feature which, though much debased in certain savage races, essentially characterises the human species. But, considering that the Neanderthal skull is eminently simial, both in its general and particular characters, I feel myself constrained to believe that the thoughts and desires which once dwelt within it never soared beyond those of the brute. The Andamaner, it is indisputable, possesses but the dimmest conceptions of the existence of the Creator of the Universe: his ideas on this subject, and on his own moral obligations, place him very little above animals of marked sagacity;† nevertheless, viewed in connection with the strictly human conformation of his cranium, they are such as to specifically identify him with *homo sapiens*. Psychical endowments of a lower grade

sutures; next, by cutting the paper according to the lines given by the sutures, and allowing it to retain its acquired convexity: the outlines were then marked off on another sheet of paper. Possibly the antero-inferior angle of the Neanderthal parietal, as given in the figure, is not strictly correct, owing to the coronal suture being obliterated in that part, but I venture to state that it is approximatively true." (Prof. King.)

* "On the east, an incised line runs from the lambdoidal suture (where the *additamentum* joins it) towards the posterior tubercle. Is this the suture which occurs near and parallel to the transverse ridges in fetal skulls, and occasionally in that of adults? In the skull of the 'Caffre,' noticed in the text, this suture, which is only seen on the right side, is situated above the ridge; but in the fossil it is below this part." (Prof. King.)

† "It has often been stated that neither the Andamaners, nor the Australians, have any idea of the existence of God: there are circumstances, however, recorded of these races which prevent my accepting the statement as an absolute truth." (Prof. King.)

than those characterising the Andamaner cannot be conceived to exist: they stand next to brute benightedness.

"Applying the above argument to the Neanderthal skull, and considering that it presents only an approximate resemblance to the cranium of man, that it more closely conforms to the brain-case of the Chimpanzee, and moreover, assuming, as we must, that the simial faculties are unimprovable—incapable of moral and theositic conceptions—there seems no reason to believe otherwise than that similar darkness characterised the being to which the fossil belonged."*

Dr. Schaaffhausen, of Berne, had sent to Dr. Pruner Bey the cast of the celebrated Neanderthal skull, which is in his possession, and added to it the summary of a work which he recently read on this subject to the Natural History Society of the Rhine and Westphalia. A translation of the memoir is appended.

"The opinion which I expressed in 1858, in *Müller's Archiv*, and which, since that time I have reproduced at various periods, on the coexistence of man and extinct mammalia, is found to be confirmed by the last work of Sir C. Lyell on the *Antiquity of Man*. In 1861, Mr. Busk published, in the *Natural History Review*, a translation of my above cited memoir, adding to it certain commentaries. Since then, Professor Huxley has made on the Neanderthal skull detailed researches, which have been inserted in the work of Lyell, and which he has recently reproduced in his work entitled *Evidence as to Man's Place in Nature*. I shall oppose the following observations to the opinions put forth by these scientific men.

"Mr. Busk erroneously doubts that the enormous supraciliary elevations on the Neanderthal skull are the result of large frontal sinuses. Professor Huxley agrees with me, that the peculiar conformation of this skull cannot be considered either as pathological or as artificial; but that, on the contrary, it presents the type of an ancient race; and he adds that this skull resembles those of the apes more nearly than any one yet known. On the other hand, the large cranial capacity which appears from my measurements, and the condition of the other bones of the same skeleton, are the solitary circumstances which prevent Sir C. Lyell from considering these bones as a proof of progressive development, and the consequent derivation of man from the ape. To obviate such an interpretation, I had expressly said in my first work, "It would not be permissible to recognise in such a conformation of the skull the most rude primitive type of man; as these exist amongst existing savages, which, without recalling the features of the great apes by so singular a frontal conformation, are, nevertheless, to be found, in other respects, in an equal degree of arrested development." The assertion of Professor Huxley, that the posterior part of the skull is even more striking than the anterior, is without foundation. According to this author, the upward and forward direction of

* "A paper advocating the views contained in this article was read at the last meeting of the British Association, held in Newcastle-on-Tyne. In that paper I called the fossil by the name of *Homo Neanderthalensis*; but I now feel strongly inclined to believe that it is not only specifically but generically distinct from Man." (Prof. King.)

the squama occipitis, the shortening of the sagittal suture, the entirely straight edge of the temporo-parietal suture, and, in general, the flattened form of the skull, which scarcely admits the possibility of lodging in it the posterior lobes of a human brain, approaches the skull to that of an ape more than does the conformation of the lower frontal region. But Professor Huxley has forgotten that all these peculiarities are equally encountered on the skulls of other inferior races; the only character which exclusively belongs to the Neanderthal skull is the entirely animal ridge which bounds upwardly the orbital cavities. Finally, the remark of Professor Huxley, that the two lateral sinuses, *i.e.*, the lower limits of the posterior cerebral lobes, are perfectly visible, is also entirely erroneous: this remark was made in accordance with photographs; but on the specimen there only exists the commencement of the right sinus, where it takes its origin from the superior longitudinal sinus. If, when finally Professor Huxley superposes the cranial contours of the Neanderthal savage, the Australian, and the European, such process only gives a very imperfect idea of the various degrees of their development, because no account is therein taken of the breadth of the skull, which every craniologist recognises as of importance in the calculation of cranial forms. It is not less remarkable that Professor Huxley should have found an Australian skull comparable to that of the Neanderthal. But, according to the opinion of all naturalists (Becker, Martin, Lucae, Ecker), the Australian skull is narrow, elevated, and sloping down like rafters rapidly from the vertex towards the temples, whilst that of the Neanderthal is very depressed, posteriorly enlarged, and without any trace of the indicated conformation.

"To acquire a distinct idea of the cerebral development of the Neanderthal skull, I obtained from Dr. Fuhlrott permission to take a cast of the cavity. This specimen entirely confirms the conclusions which I had drawn from the form and the extent of the cranial cavity compared with that of the inferior races. The cast of the brain shows a great resemblance with that of an Australian presented at the same time to the Society, so far as regards the small cerebral development. The last cast even offers dimensions slightly more favourable. The difference between the two cranial forms is also equally distinct in the brain. The following is the result of the comparative measurement of the casts.

	Length of the hemispheres.	Width of the anterior lobes.	The greatest width.	Greatest height.*
Neanderthal	173 mm	112 mm	136 mm	66 mm
Australian	164 "	100 "	125 "	77 "

"Dr. Lucae has demonstrated that the weight of the brain of the European surpasses, on an average, by 300 grammes, that of the Australian. So far as regards dimensions, it is neither in length nor in height that the first considerably exceeds the second, but greatly in width. This race difference was already manifested in the most remote antiquity when our countries were inhabited by men who, as

* Taken at the line which joins the anterior to the posterior lobes.

regards intelligence, were on a level with the existing savages of Australia. Finally, with respect to the age of the human bones of the Neanderthal cave, I think that the presence of the tooth of a bear which was found in the same bed, and which externally so much resembles fossil teeth, would render such antiquity probable for the skull, without, however, demonstrably proving it. I shall further remark, that No. lxiii. of the *Decades Craniorum* of Blumenbach, which represents a Dutch skull from the Isle of Marken (*Batavus Genuinus*), offers a great resemblance with that of the Neanderthal. To conclude, I consider that the remains are probably the most ancient vestige of the inhabitants of Europe."

"*Observations on the Neanderthal Skull by M. Pruner-Bey.*—In reporting on the judicious observations of Dr. Schaaffhausen, which you have just heard read, I shall, in the first place, inquire in what this skull can be found to resemble those of the apes. It is the frontal region which has given it this definition; I place before you the skull of a young chimpanzee, the ape whose skull most resembles that of man, and also the skull of an adult gorilla. The human skull exhibits a strange development of the supraciliary arches, and above them a singular low and receding forehead; at the first glance an observer might entertain the indicated opinion for a moment. I shall proceed to examine the details.

"In the man, the supraciliary eminences are distinctly separated from the glabella; their base, attached to the frontal, is very large, with narrow edges and a hollow interior. In the two apes these relations are found in an inverse degree; the forehead is bounded by a continuous crest, slender at its base, enlarged at its edges, and its interior is filled with diploë. Excluding all that relates to the exaggerated prominence of the crest in the ape, I shall ask whether it is resemblance or dissimilarity which is exhibited in the specimen before us. For my part, I consider that it is the latter. Before proceeding to the classification of the Neanderthal skull, let us remember that the supraciliary arches exhibit a large development in savage races, as for example in the New Caledonians and Australians; in the last, as well as the Tasmanians, the frontal sinus is frequently absent. Let us further notice, that the greatest part of the ancient skulls found in Europe also show an exaggerated development of the supraciliary arches, which, nevertheless, does attain that of the skull before us. Nevertheless, we already know two cases, where ancient brachycephalic skulls, by the same peculiarity, have produced on observers the same impression. One of these skulls is that of which I have just shown you the lower jaw, and which was derived from a Swiss brachycephale. The other is that of Borreby, in Denmark, figured in the last work of Sir C. Lyell. There are, then, in different races, individual cases exhibiting the same peculiarity. Let us now try if it is possible to classify the Neanderthal skull. Is it the representative of a lost race, or can it be identified with any of the stocks which are known to us? In my opinion, it is undoubtedly the skull of a Celt; it belonged to a large individual; it is capacious and dolichocephalic; it presents the depression on the posterior third

of the sagittal suture, common to the Celts and Scandinavians; and finally, its occipital projection is equally characteristic of these two races. To give greater weight to my assertion, I shall place before you three ancient skulls, of which one is that of an Allobroge or Helvetian, of Switzerland. The two others were derived from Ireland. Whilst they all present the same general type, these three skulls exhibit slight differences. There even exists a fourth variety, represented in the collection of Retzius by an ancient Belgian, whose skull is more compressed laterally than that of the first Irishman, which is almost cylindric. Let us remark that in the gallery of the Museum there is a sufficiently numerous series of ancient French skulls of the same type in every respect as those which we have before us. Further, in comparing the drawings which we have of ancient dolichocephali, discovered at Engis by M. Schmerling, and at Meilen, in the Lake of Zürich, we ascertain that the first corresponds to the second Irish skull, and the second to the Swiss skull. We may also remember that Mr. Schaaffhausen has already remarked the resemblance between the Neanderthal skull and the Belgian, figured by Blumenbuch.

"Without at this time entering into descriptive details respecting the ancient Celtic skull, you will recognise with me that all the ancient skulls before us present a very depressed forehead, compared with the enormous facial development. Do not let us forget at this time the law of compensation, for that which the forehead of the ancient Celt loses in height, it gains in length. It is also very remarkable that the ancient skull of the female Celt presents, contrariwise to that of her husband, a finely elevated forehead, and something very charming in the face. The female skull I present to you is a contemporary of the Allobroge or Helvetian. It equals in thickness that of the Australian.

"You will see by the annexed note that the Neanderthal skull does not essentially diverge from its *frères d'origine*, the three Celts whose skulls are before us; taking the three measurements possible on the calvarium.

MEASURES TAKEN ON THE FOUR SKULLS (IN CENTIMETRES).

	Length.	Breadth.	Circumference at the level of the supraciliary ridges.	Circumference above the supraciliary ridges.
Neanderthal	20.5	15.0	59	56
Helvetian	19.5	14.5	57	55
Irish (No. 1)	20.0	15.0	58	57
Irish (No. 2)	20.5	14.3	57	56

"But are these skulls really Celtic? What proof have we of this allegation? 1st. The locality whence they were derived belongs, unquestionably, to the ancient Celtic area. 2nd. Comparison by the retrogressive or progressive method with skulls of Bretons, French, and modern Irishmen, in which the mass are undoubtedly Celtic,

confirms our opinion. Although the Celtic skull has undergone some secondary modifications, its type is at the present day the same as in the most remote ages. I refer to the beautiful series of modern skulls in the Museum, derived from Brittany, and to my own collection of modern Irish skulls.

"Another question may be demanded regarding the osseous relic from the Neanderthal. Was it the skull of an idiot? If an idiot is necessarily, absolutely, and always a microcephale, our Celt, who possessed so large a cranial capacity, could not have been included in this category. Nevertheless, if the deep depressions which the cerebral convolutions have left in the cranial cavity, as well as the prominence of the supraciliary ridges, should, according to MM. Gratiolet and Broca, bear witness in favour of this opinion, I would incline to accept this hypothesis. The condition of idiocy has its degrees like every other affection of the kind; and it is possible that we may have before us the skull of an individual in whom the intelligence was developed. As nevertheless, I stand here before a whole pleiades of scientific brethren, who have pursued these investigations far more than myself, I must leave the decision of this question to judges in every subject more competent than myself.

"To sum up shortly the results of our study.

"1. Although we have already descended to the level of the drift, we do not yet see, at least in this part of Europe, anything which denotes the horizon which indicates the filiation of man with the ape.

"2. Until we have further information, there is nothing known respecting the resemblance of the pretended primitive man of Europe with the Australians, Caribs, negroes, etc.

"3. On the other hand, we find ourselves in the most remote antiquity in the presence of two distinct races, of which the descendants survive to the present day."

When this paper by M. Pruner Bey was read before the Paris Society, M. Broca made the following highly valuable and important observations thereon. He said:—"The whole of M. Pruner Bey's arguments repose on one basis, the knowledge whether the peculiar form of the Neanderthal skull is pathological. As we have never seen such a skull, and do not wish to admit that it belonged to a race of which no other vestige remains to us, we are forced to seek a morbid origin for the peculiarities which it presents. But I believe myself able to demonstrate that this skull could not be derived from an idiot; what is indicated by the fact, in both the idiot and the gorilla, of the prominence of the supraciliary arches and the retrocession of the forehead? It is indicated that the cerebral mass is not greatly voluminous, and that the anterior and posterior lobes converge towards the ideal centre of the head. No such condition is produced in any other form excepting than that which is concomitant with microcephaly. But the Neanderthal skull is not that of a microcephale.

"Two years ago I saw at Bicêtre, an idiot who had an enormous head, and of whom the appearance appeared to contradict the opinion of those who attribute importance to the volume of the brain in intel-

lectual manifestations. But at the autopsy we found the cranial integuments with their osseous case irregularly thick. The brain was, in reality, very small; it weighed less than 1,100 grammes, but its size precluded its arrangement amongst microcephali. To find a skull comparable to that of the Neanderthal, we must have recourse to the microcephalic idiot. As for the large impressions, indications of convolutions few in number, this character actually exists in idiots, but it also exists in all men with large convolutions, and in the individuals of inferior races. So that the brain of the Neanderthal man may merely be that of an individual of inferior race. To sum up my objection in a few words; idiocy, capable of producing such a skull is necessarily microcephalic; but this skull is not that of a microcephale; therefore it is not that of an idiot."

In the above remarks I have endeavoured to give a fair epitome of the state of the controversy respecting the skeleton from the Neanderthal, so far as it has been recently carried on in France and Germany. I have abstained from offering any opinion of my own on this topic, and from attempting to collate the testimony of so many discrepant observers. When photographs are given by one writer,* which purport to exhibit structures which the possessor of the original specimen declares to be absent, it would be futile for any person who has not the specimen before him to attempt to offer an opinion which could be capable of reconciling such conflicting statements. Doubtless, future speculators will have some more tangible ground whereon to found their theories than the description of structures whose existence is as yet unproven. But I must reply to those who say that the *onus probandi* lies upon those zoologists who may assert that the Neanderthal skull once belonged to an idiot. As a question of logical truth, there is no *onus* in the case; no need why any hypothesis should be propounded into which the known facts of the case should be compressed as best they may, and the future facts which may be discovered ignored, in order that a convenient theory may be at once generally accepted. Taking the several hypotheses; that the skull in question is that of a low "pithecoïd" race of man, with many affinities to the Australian, or other dark races; that it is a distinct species, or even distinct genus of *Anthropini*; that it was the skull of a powerfully organised Celt of low mental organisation, but in race identical with the historical Celt; or that it was the skull of an individual in whom rachitis or some congenital defect or even accident, may have combined to produce the pathological condition of the *ulna*, the abnormal form of the ribs, the peculiar frontal conformation which is associated with several of the forms of the macrocephalic idiot, and the hypertrophied condition of the cranial walls; it is our duty to test these hypotheses severally, and give due allowance for the small proportion of truth there may be in each of them. Forensic skill may advocate any one of these hypotheses; it may select the favoured theory, whilst suppressing, ignoring, or distorting the opinions and facts of other observers; it may place the diverging arguments in

* See Huxley. Evidence as to Man's Place in Nature, p. 141, fig. 26. 8vo. Lond. 1863.

such a form as to shift the *onus* on the opponent, instead of adopting the more difficult, although more conclusive procedure, of proving one's own case; and the recital of one or two of the above arguments may be promulgated as "evidence" as to the place in nature of an enigmatical or singular form. But such methods of reasoning are not those of the inquirer, who, accepting the evidence of the possessor of the skull as to its physical conformation, declines to express an opinion as to its probable or hypothetical relationship with those of tribes at the antipodes; who admits that the state of our knowledge respecting the posterior portion of the skull is inadequate on which to found any generalisation; and who recognises in the great development of the supraorbital ridges nothing more than the mere exaggeration of a cranial type common in many of the lower Celtic and Teutonic forms. Such are the few ascertainable facts; the hypothesis of idiocy, although it may be rejected by those who have not enjoyed the pleasure of inspecting the skull any more than myself, has as great evidence on its side as any of the divergent and discrepant theories above cited. Its nature, however, essentially precludes its conclusive demonstration; and I hope that no one will misunderstand me so far as to consider that I am committed *simpliciter* to its avowal.

Whilst the question of the mental endowments of the Neanderthal man must remain for a long period unanswered, I am afraid that the speculations of Professor King as to the precise theological belief professed by the individual must remain in abeyance. Evidence has been, and will be, laid before anthropologists in Europe to prove that the belief in a God is not an inherent idea in the mind of all savages; but to enter into that question would take me far beyond the limits of this paper. As regards, however, the generic distinction of the Neanderthal man from the *homo sapiens* of our monogenistic ancestors, or the many unnamed species of man whose separate existence polygenists may affirm, I cannot see the grounds on which generic distinction can be affirmed. If, however, such there be, the rules of the binomial nomenclature suggest that a new generic and specific name should be given to the *Homo Neanderthalensis*. Although I will not undertake the task of describing the new genus of manlike beast which is indicated "*abest omnium proxime a simiis*," until my friend Mr. Winwood Reade shall have brought us over a few cagefuls of Neanderthaloid apes from Equatorial Africa, I trust that the term *Nidum equinum* may complete all the necessary formalities in the identification of a genus the priority of description in which I leave to the first observer who may wish to develop the *canard*.

Mr. REDDIE hoped that when Mr. Blake's communication was printed, he would give the measurements he had quoted in English measures, so that like things might be compared with like. With respect to the skull that had been the subject of the communication, whatever difference of opinion might exist as to its intellectual developments, and however low the race of man it might indicate, it was, nevertheless, the skull of a man, and not of an ape. The dis-

inction between a man and the inferior animals in their intellectual capacities was so great that they could not be mistaken. The gorilla, for example, might have sufficient sense to warm itself at a fire made by negroes, but it had not common sense enough to put on more logs of wood to keep the fire burning.

Mr. ALFRED R. WALLACE said he had examined the extensive series of crania in the Museum at Oxford, where there are crania of New Zealanders, of Australians, the natives of New Guinea, and of other aboriginal tribes, for the purpose of observing if there were any corresponding peculiarities. He was enabled to discover that some of the Australian crania agreed with the Neanderthal skull, in general shape, in the slanting forehead, the orbital ridges, and in other particulars, and the impression on his mind was that they were exactly of the same type. But that was not, however, the usual form of Australian skulls, for there were others very different. The majority of them, indeed, were totally different, whilst there were others that had an intermediate form. The skulls of the Van Dieman's Land natives also approached in general form to the Neanderthal skull. In some burial grounds in this country there are occasionally to be found skulls which nearly approximate to those of Australians. These facts showed how difficult it is to draw general results from agreements in the forms of different crania. He felt satisfied that there was no reason to believe that the Neanderthal skull belonged to any other than a savage race of man in a low state of development, and that it was not the skull of an idiot, but of a common man of the same race.

Mr. BOUVIERE PUSEY said the speech of Mr. Wallace suggested the question whether the Australian skulls he examined at Oxford belonged to natives of the same tribe, or whether they were the skulls of different tribes?

Mr. WALLACE said he was unable to answer the question.

Sir CHARLES NICHOLSON observed that his own experience and recollection confirmed Mr. Wallace's statement respecting the resemblance of the skull in question to those of some skulls of Australians. It reminded him strongly of skulls he had seen in Australia, though there were some peculiarities in it. There were to be found among the natives of Australia great varieties; for though there were some extremely low types among them, there were others, again, so different that it was difficult to distinguish their skulls from those of Europeans. An instance of this occurred at Sydney, in the Museum of which town there was a collection of the skulls of transported criminals, and of the aborigines; but the labels on them having been accidentally lost, many of them could not be distinguished, and to this day no one could tell which was which. It was a curious fact, he observed, that some of the lowest types of animal and vegetable life should be now found living in Australia which had long since been extinct in Europe. In Australia, where the aboriginal human races are fast dying out, there are still existing types of the flora and fauna of the earliest period in which they appeared on the earth in Europe. For example, the first fossil mammal that

occurred in the ascending series of strata was a marsupial animal, corresponding in general character with those now living in Australia, where there are several existing analogues of the fossil flora and fauna, extinct in this part of the world. Sir Charles Nicholson expressed the hope that new light would shortly be thrown on the relations of the lower types of animals with the higher by the investigations of Professor Owen, who is now in France, making observations *in situ* on the organic remains found in some ancient caverns.

Mr. CARTER BLAKE, in reply, alluded in the first place to the suggestion of Mr. Reddie that the measurements he had quoted should be given in English measures. He said he should certainly not undertake to change the French measures into English, but he should be glad, on the contrary, to see the reverse done, as the decimal measures were much more convenient, and more generally applicable for the use of scientific men. With respect to the varieties said to exist among the tribes of Australia, it was evident from what had been stated that manifestly distinct forms of skulls were to be found there, but it was a question whether there were wider differences among the natives of Australia than of any other country. Professor Huxley had called attention to a skull in the Museum of the College of Surgeons which resembled the Neanderthal skull. It seemed, indeed, useless to go so far as Australia to look for corresponding forms of skulls, while similar forms were to be found in Ireland, Scotland, and in many other places nearer home. He hoped that what he had said would not be taken as throwing any doubt on the transmutation theory, which he considered a very rational hypothesis. Though the assumed great antiquity of the Neanderthal skull might be proved to be an error, which had arisen from the misrepresentations of German describers of the circumstances in which it was found, he felt assured they had only to wait until some other discoveries would be made which would confirm the transmutation theory, and such discoveries, he thought, might be shortly forthcoming.

The meeting then adjourned.

MARCH 1st, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

The minutes of the last meeting were read and confirmed.

The following new Fellows were announced:—The Rev. Dr. J. Bosworth; F. Chance, Esq.; B. Bond Cabbell, Esq., F.R.S.; C. C. Babington, Esq., F.R.S.; F. Carulla, Esq.; H. Charlton, Esq.; G. Critchett, Esq.; C. Capper, Esq.; H. Campbell, Esq.; H. Crowley, Esq.

The Origin of Human Races and the Antiquity of Man deduced from the theory of "Natural Selection." By ALFRED R. WALLACE, Esq., F.Z.S.

AMONG the most advanced students of man, there exists a wide difference of opinion on some of the most vital questions respecting his nature and origin. Anthropologists are now, indeed, pretty well agreed that man is not a recent introduction into the earth. All who have studied the question now admit that his antiquity is very great; and that, though we have to some extent ascertained the minimum of time during which he *must* have existed, we have made no approximation towards determining that far greater period during which he *may* have, and probably *has*, existed. We can with tolerable certainty affirm that man must have inhabited the earth a thousand centuries ago, but we cannot assert that he positively did not exist, or that there is any good evidence against his having existed, for a period of a hundred thousand centuries. We know positively that he was contemporaneous with many now extinct animals, and has survived changes of the earth's surface fifty or a hundred times greater than any that have occurred during the historical period; but we cannot place any definite limit to the number of species he may have outlived, or to the amount of terrestrial change he may have witnessed.

But while on this question of man's antiquity there is a very general agreement,—and all are waiting eagerly for fresh evidence to clear up those points which all admit to be full of doubt,—on other and not less obscure and difficult questions a considerable amount of dogmatism is exhibited; doctrines are put forward as established truth, no doubt or hesitation is admitted, and it seems to be supposed that no further evidence is required, or that any new facts can modify our convictions. This is especially the case when we inquire, *Are the various forms under which man now exists primitive, or derived from preexisting forms; in other words, is man of one or many species?* To this question we immediately obtain distinct answers diametrically opposed to each other: the one party positively maintaining that man is a *species* and is essentially *one*—that all differences are but local and temporary variations, produced by the different physical and moral conditions by which he is surrounded; the other party maintaining with equal confidence that man is a genus of *many species*, each of which is practically unchangeable, and has ever been as distinct, or even more distinct, than we now behold them. This difference of opinion is somewhat remarkable, when we consider that both parties are well acquainted with the subject; both use the same vast accumulation of facts; both reject those early traditions of mankind which profess to give an account of his origin; and both declare that they are seeking fearlessly after truth alone. I believe, however, it will be found to be the old story over again of the shield—gold on one side and silver on the other—about which the knights disputed; each party will persist in looking only at the portion of truth on his own side of the question, and at the error which is mingled with his opponent's doctrine. It is my wish to show how the two opposing

views can be combined so as to eliminate the error and retain the truth in each, and it is by means of Mr. Darwin's celebrated theory of "Natural Selection" that I hope to do this, and thus to harmonise the conflicting theories of modern anthropologists.

Let us first see what each party has to say for itself. In favour of the unity of mankind it is argued that there are no races without transitions to others; that every race exhibits within itself variations of colour, of hair, of feature, and of form, to such a degree as to bridge over to a large extent the gap that separates it from other races. It is asserted that no race is homogeneous; that there is a tendency to vary; that climate, food, and habits produce and render permanent physical peculiarities, which, though slight in the limited periods allowed to our observation, would, in the long ages during which the human race has existed, have sufficed to produce all the differences that now appear. It is further asserted that the advocates of the opposite theory do not agree among themselves; that some would make three, some five, some fifty or a hundred and fifty species of man; some would have had each species created in pairs, while others require nations to have at once sprung into existence, and that there is no stability or consistency in any doctrine but that of one primitive stock.

The advocates of the original diversity of man, on the other hand, have much to say for themselves. They argue that proofs of change in man have never been brought forward except to the most trifling amount, while evidence of his permanence meets us everywhere. The Portuguese and Spaniards, settled for two or three centuries in South America, retain their chief physical, mental, and moral characteristics; the Dutch boers at the Cape, and the descendants of the early Dutch settlers in the Moluccas, have not lost the features or the colour of the Germanic races; the Jews, scattered over the world in the most diverse climates, retain the same characteristic lineaments everywhere; the Egyptian sculptures and paintings show us that, for at least 4000 or 5000 years, the strongly contrasted features of the Negro and the Semitic races have remained altogether unchanged; while more recent discoveries prove that, in the case at least of the American aborigines, the mound-builders of the Mississippi valley, and the dwellers on Brazilian mountains, had still in the very infancy of the human race the same characteristic type of cranial formation that now distinguishes them.

If we endeavour to decide impartially on the merits of this difficult controversy, judging solely by the evidence that each party has brought forward, it certainly seems that the best of the argument is on the side of those who maintain the primitive diversity of man. Their opponents have not been able to refute the permanence of existing races as far back as we can trace them, and have failed to show, in a single case, that at any former epoch the well marked varieties of mankind approximated more closely than they do at the present day. At the same time this is but negative evidence. A condition of immobility for four or five thousand years, does not preclude an advance at an earlier epoch, and—if we can show that there

are causes in nature which would check any further physical change when certain conditions were fulfilled—does not even render such an advance improbable, if there are any general arguments to be adduced in its favour. Such a cause, I believe, does exist, and I shall now endeavour to point out its nature and its modé of operation.

In order to make my argument intelligible, it is necessary for me to explain very briefly the theory of "Natural Selection" promulgated by Mr. Darwin, and the power which it possesses of modifying the forms of animals and plants. The grand feature in the multiplication of organic life is that of close general resemblance, combined with more or less individual variation. The child resembles its parents or ancestors more or less closely in all its peculiarities, deformities, or beauties; it resembles them in general more than it does any other individuals; yet children of the same parents are not all alike, and it often happens that they differ very considerably from their parents and from each other. This is equally true of man, of all animals, and of all plants. Moreover, it is found that individuals do not differ from their parents in certain particulars only, while in all others they are exact duplicates of them. They differ from them and from each other in every particular: in form, in size, in colour, in the structure of internal as well as of external organs; in those subtle peculiarities which produce differences of constitution, as well as in those still more subtle ones which lead to modifications of mind and character. In other words, in every possible way, in every organ and in every function, individuals of the same stock vary.

Now, health, strength, and long life are the results of a harmony between the individual and the universe that surrounds it. Let us suppose that at any given moment this harmony is perfect. A certain animal is exactly fitted to secure its prey, to escape from its enemies, to resist the inclemencies of the seasons, and to rear a numerous and healthy offspring. But a change now takes place. A series of cold winters, for instance, come on, making food scarce, and bringing an immigration of some other animals to compete with the former inhabitants of the district. The new immigrant is swift of foot, and surpasses its rivals in the pursuit of game; the winter nights are colder, and require a thicker fur as a protection, and more nourishing food to keep up the heat of the system. Our supposed perfect animal is no longer in harmony with its universe; it is in danger of dying of cold or of starvation. But the animal varies in its offspring. Some of these are swifter than others—they still manage to catch food enough; some are hardier and more thickly furred—they manage in the cold nights to keep warm enough; the slow, the weak, and the thinly clad soon die off. Again and again, in each succeeding generation, the same thing takes place. By this natural process, which is so inevitable that it cannot be conceived not to act, those best adapted to live, live; those least adapted, die. It is sometimes said that we have no direct evidence of the action of this selecting power in nature. But it seems to me we have better evidence than even direct observation would be, because it is more universal, viz., the evidence of necessity. It must be so; for, as all wild animals in-

crease in a geometrical ratio, while their actual numbers remain on the average stationary, it follows that as many die annually as are born. If therefore, we deny natural selection, it can only be by asserting that in such a case as I have supposed, the strong, the healthy, the swift, the well clad, the well organised animals in every respect, have no advantage over,—do not on the average live longer than the weak, the unhealthy, the slow, the ill-clad, and the imperfectly organised individuals; and this no sane man has yet been found hardy enough to assert. But this is not all; for the offspring on the average resemble their parents, and the selected portion of each succeeding generation will therefore be stronger, swifter, and more thickly furred than the last; and if this process goes on for thousands of generations, our animal will have again become thoroughly in harmony with the new conditions in which he is placed. But he will now be a different creature. He will be not only swifter and stronger, and more furry, he will also probably have changed in colour, in form, perhaps have acquired a longer tail, or differently shaped ears; for it is an ascertained fact, that when one part of an animal is modified, some other parts almost always change as it were in sympathy with it. Mr. Darwin calls this "*correlation of growth*," and gives as instances that hairless dogs have imperfect teeth; blue eyed cats are deaf; small feet accompany short beaks in pigeons; and other equally interesting cases.

Grant, therefore, the premises: 1st. That peculiarities of every kind are more or less hereditary. 2nd. That the offspring of every animal vary more or less in all parts of their organisation. 3rd. That the universe in which these animals live, is not absolutely invariable;—none of which propositions can be denied; and then consider that the animals in any country (those at least which are not dying out) must at each successive period be brought into harmony with the surrounding conditions; and we have all the elements for a change of form and structure in the animals, keeping exact pace with changes of whatever nature in the surrounding universe. Such changes must be slow, for the changes in the universe are very slow; but just as these slow changes become important, when we look at results after long periods of action, as we do when we perceive the alterations of the earth's surface during geological epochs; so the parallel changes in animal form become more and more striking according as the time they have been going on is great, as we see when we compare our living animals with those which we disentomb from each successively older geological formation.

This is briefly the theory of "natural selection," which explains the changes in the organic world as being parallel with, and in part dependent on those in the inorganic. What we now have to inquire is,—Can this theory be applied in any way to the question of the origin of the races of man? or is there anything in human nature that takes him out of the category of those organic existences, over whose successive mutations it has had such powerful sway?

In order to answer these questions, we must consider why it is that "natural selection" acts so powerfully upon animals, and we shall, I

believe, find that its effect depends mainly upon their self-dependence and individual isolation. A slight injury, a temporary illness, will often end in death, because it leaves the individual powerless against its enemies. If a herbivorous animal is a little sick and has not fed well for a day or two, and the herd is then pursued by a beast of prey, our poor invalid inevitably falls a victim. So in a carnivorous animal the least deficiency of vigour prevents its capturing food, and it soon dies of starvation. There is, as a general rule, no mutual assistance between adults, which enables them to tide over a period of sickness. Neither is there any division of labour; each must fulfil *all* the conditions of its existence, and, therefore, "natural selection" keeps all up to a pretty uniform standard.

But in man, as we now behold him, this is different. He is social and sympathetic. In the rudest tribes the sick are assisted at least with food; less robust health and vigour than the average does not entail death. Neither does the want of perfect limbs or other organs produce the same effects as among animals. Some division of labour takes place; the swiftest hunt, the less active fish, or gather fruits; food is to some extent exchanged or divided. The action of natural selection is therefore checked; the weaker, the dwarfish, those of less active limbs, or less piercing eyesight, do not suffer the extreme penalty which falls upon animals so defective.

In proportion as these physical characteristics become of less importance, mental and moral qualities will have increasing influence on the well-being of the race. Capacity for acting in concert, for protection and for the acquisition of food and shelter; sympathy, which leads all in turn to assist each other; the sense of right, which checks depredations upon our fellows; the decrease of the combative and destructive propensities; self-restraint in present appetites; and that intelligent foresight which prepares for the future, are all qualities that from their earliest appearance must have been for the benefit of each community, and would, therefore, have become the subjects of "natural selection." For it is evident that such qualities would be for the well-being of man; would guard him against external enemies, against internal dissensions, and against the effects of inclement seasons and impending famine, more surely than could any merely physical modification. Tribes in which such mental and moral qualities were predominant, would therefore have an advantage in the struggle for existence over other tribes in which they were less developed, would live and maintain their numbers, while the others would decrease and finally succumb.

Again, when any slow changes of physical geography, or of climate, make it necessary for an animal to alter its food, its clothing, or its weapons, it can only do so by a corresponding change in its own bodily structure and internal organisation. If a larger or more powerful beast is to be captured and devoured, as when a carnivorous animal which has hitherto preyed on sheep is obliged from their decreasing numbers to attack buffaloes, it is only the strongest who can hold,—those with most powerful claws, and formidable canine teeth, that can struggle with and overcome such an animal. Natural

selection immediately comes into play, and by its action these organs gradually become adapted to their new requirements. But man, under similar circumstances, does not require longer nails or teeth, greater bodily strength or swiftness. He makes sharper spears, or a better bow, or he constructs a cunning pitfall, or combines in a hunting party to circumvent his new prey. The capacities which enable him to do this are what he requires to be strengthened, and these will, therefore, be gradually modified by "natural selection," while the form and structure of his body will remain unchanged. So when a glacial epoch comes on, some animals must acquire warmer fur, or a covering of fat, or else die of cold. Those best clothed by nature are, therefore, preserved by natural selection. Man, under the same circumstances, will make himself warmer clothing, and build better houses; and the necessity of doing this will react upon his mental organisation and social condition—will advance them while his natural body remains naked as before.

When the accustomed food of some animal becomes scarce or totally fails, it can only exist by becoming adapted to a new kind of food, a food perhaps less nourishing and less digestible. "Natural selection" will now act upon the stomach and intestines, and all their individual variations will be taken advantage of to modify the race into harmony with its new food. In many cases, however, it is probable that this cannot be done. The internal organs may not vary quick enough, and then the animal will decrease in numbers, and finally become extinct. But man guards himself from such accidents by superintending and guiding the operations of nature. He plants the seed of his most agreeable food, and thus procures a supply independent of the accidents of varying seasons or natural extinction. He domesticates animals which serve him either to capture food or for food itself, and thus changes of any great extent in his teeth or digestive organs are rendered unnecessary. Man, too, has everywhere the use of fire, and by its means can render palatable a variety of animal and vegetable substances, which he could hardly otherwise make use of, and thus obtains for himself a supply of food far more varied and abundant than that which any animal can command.

Thus man, by the mere capacity of clothing himself, and making weapons and tools, has taken away from nature that power of changing the external form and structure which she exercises over all other animals. As the competing races by which they are surrounded, the climate, the vegetation, or the animals which serve them for food, are slowly changing, they must undergo a corresponding change in their structure, habits, and constitution, to keep them in harmony with the new conditions—to enable them to live and maintain their numbers. But man does this by means of his intellect alone; which enables him with an unchanged body still to keep in harmony with the changing universe.

From the time, therefore, when the social and sympathetic feelings came into active operation, and the intellectual and moral faculties became fairly developed, man would cease to be influenced by "natural selection" in his physical form and structure; as an

animal he would remain almost stationary; the changes of the surrounding universe would cease to have upon him that powerful modifying effect which it exercises over other parts of the organic world. But from the moment that his body became stationary, his mind would become subject to those very influences from which his body had escaped; every slight variation in his mental and moral nature which should enable him better to guard against adverse circumstances, and combine for mutual comfort and protection, would be preserved and accumulated; the better and higher specimens of our race would therefore increase and spread, the lower and more brutal would give way and successively die out, and that rapid advancement of mental organisation would occur, which has raised the very lowest races of man so far above the brutes, (although differing so little from some of them in physical structure), and, in conjunction with scarcely perceptible modifications of form, has developed the wonderful intellect of the Germanic races.)

But from the time when this mental and moral advance commenced, and man's physical character became fixed and immutable, a new series of causes would come into action, and take part in his mental growth. The diverse aspects of nature would now make themselves felt, and profoundly influence the character of the primitive man.*

When the power that had hitherto modified the body, transferred its action to the mind, then races would advance and become improved merely by the harsh discipline of a sterile soil and inclement seasons. Under their influence, a hardier, a more provident, and a more social race would be developed, than in those regions where the earth produces a perennial supply of vegetable food, and where neither foresight nor ingenuity are required to prepare for the rigours of winter. And is it not the fact that in all ages, and in every quarter of the globe, the inhabitants of temperate have been superior to those of tropical countries? All the great invasions and displacements of races have been from North to South, rather than the reverse; and we have no record of there ever having existed, any more than there exists to-day, a solitary instance of an indigenous inter-tropical civilisation. The Mexican civilisation and government came from the North, and, as well as the Peruvian, was established, not in the rich tropical plains, but on the lofty and sterile plateaux of the Andes. The religion and civilisation of Ceylon were introduced from North India; the successive conquerors of the Indian peninsula came from the North-west, and it was the bold and adventurous tribes of the North that overran and infused new life into Southern Europe.

It is the same great law of "*the preservation of favoured races in the struggle for life*," which leads to the inevitable extinction of all

* M. Guizot says: "If we regard the immediate influence of climate upon men, perhaps it is not so extensive as has been supposed. But the indirect influence of climate, that which, for example, results from the fact that, in a warm country, men live in the open air, while in a cold country they shut themselves up in their houses; that in the one case they nourish themselves in one manner, in the other in another;—these are facts of great importance, facts which, by the simple difference of material life, act powerfully upon civilisation." (*Hist. of Civilisation in Europe.*)

those low and mentally undeveloped populations with which Europeans come in contact. The red Indian in North America, and in Brazil; the Tasmanian, Australian and New Zealander in the southern hemisphere, die out, not from any one special cause, but from the inevitable effects of an unequal mental and physical struggle. The intellectual and moral, as well as the physical qualities of the European are superior; the same powers and capacities which have made him rise in a few centuries from the condition of the wandering savage* with a scanty and stationary population to his present state of culture and advancement, with a greater average longevity, a greater average strength, and a capacity of more rapid increase,—enable him when in contact with the savage man, to conquer in the struggle for existence, and to increase at his expense, just as the more favourable increase at the expense of the less favourable varieties in the animal and vegetable kingdoms, just as the weeds of Europe overrun North America and Australia, extinguishing native productions by the inherent vigour of their organisation, and by their greater capacity for existence and multiplication.

"If these views are correct; if in proportion as man's social, moral and intellectual faculties became developed, his physical structure would cease to be affected by the operation of "natural selection," we have a most important clue to the origin of races. For it will follow, that those striking and constant peculiarities which mark the great divisions of mankind, could not have been produced and rendered permanent after the action of this power had become transferred from physical to mental variations. They must, therefore, have existed since the very infancy of the race; they must have originated at a period when man was gregarious, but scarcely social, with a mind perceptive but not reflective, ere any sense of *right* or feelings of *sympathy* had been developed in him.

By a powerful effort of the imagination, it is just possible to perceive him at that early epoch existing as a single homogeneous race without the faculty of speech, and probably inhabiting some tropical region. He would be still subject, like the rest of the organic world, to the action of "natural selection," which would retain his physical form and constitution in harmony with the surrounding universe. He must have been even then a dominant race, spreading widely over the warmer regions of the earth as it then existed, and, in agreement with what we see in the case of other dominant species, gradually becoming modified in accordance with local conditions. As he ranged farther from his original home, and became exposed to greater extremes of climate, to greater changes of food, and had to contend with new enemies, organic and inorganic, useful variations in his constitution would be selected and rendered permanent, and would, on the principle of "correlation of growth", be accompanied

* "It is probable that the present state and condition of New Zealand exhibit more nearly than any other the condition of Britain when the Romans entered it." (Turner, *Hist. of Anglo-Saxons*, i, p. 69.) "When the Romans first became acquainted with Germany, the natives had advanced but a few steps beyond the savage state." (*Encyc. Brit.*, art. Germany.)

by corresponding external physical changes. Thus arose those striking characteristics and special modifications which still distinguish the chief races of mankind. The red, black, yellow, or blushing white skin; the straight, the curly, the woolly hair; the scanty or abundant beard; the straight or oblique eyes; the various forms of the pelvis, the cranium, and other parts of the skeleton.

But while these changes had been going on, his mental development had correspondingly advanced, and had now reached that condition in which it began powerfully to influence his whole existence, and would therefore, become subject to the irresistible action of "natural selection." This action would rapidly give the ascendancy to mind: speech would probably now be first developed, leading to a still further advance of the mental faculties, and from that moment man as regards his physical form would remain almost stationary. The art of making weapons, division of labour, anticipation of the future, restraint of the appetites, moral, social and sympathetic feelings, would now have a preponderating influence on his well being, and would therefore be that part of his nature on which "natural selection" would most powerfully act; and we should thus have explained that wonderful persistence of mere physical characteristics, which is the stumbling-block of those who advocate the unity of mankind.

We are now, therefore, enabled to harmonise the conflicting views of anthropologists on this subject. Man may have been, indeed I believe must have been, once a homogeneous race; but it was at a period of which we have as yet discovered no remains, at a period so remote in his history, that he had not yet acquired that wonderfully developed brain, the organ of the mind, which now, even in his lowest examples, raises him far above the highest brutes;—at a period when he had the form but hardly the nature of man, when he neither possessed human speech, nor those sympathetic and moral feelings which in a greater or less degree everywhere now distinguish the race. Just in proportion as these truly human faculties became developed in him would his physical features become fixed and permanent, because the latter would be of less importance to his well being; he would be kept in harmony with the slowly changing universe around him, by an advance in mind, rather than by a change in body. If, therefore, we are of opinion that he was not really man till these higher faculties were developed, we may fairly assert that there were many originally distinct races of men; while, if we think that a being like us in form and structure, but with mental faculties scarcely raised above the brute, must still be considered to have been human, we are fully entitled to maintain the common origin of all mankind.

These considerations, it will be seen, enable us to place the origin of man at a much more remote geological epoch than has yet been thought possible. He may even have lived in the Eocene or Miocene period, when not a single mammal possessed the same form as any existing species. For, in the long series of ages during which the forms of these primeval mammals were being slowly specialised into those now inhabiting the earth, the power which acted to modify them would

only affect the mental organisation of man. His brain alone would have increased in size and complexity and his cranium have undergone corresponding changes of form, while the whole structure of lower animals was being changed. This will enable us to understand how the fossil crania of Denise and Engis agree so closely with existing forms, although they undoubtedly existed in company with large mammalia now extinct. The Neanderthal skull may be a specimen of one of the lowest races then existing, just as the Australians are the lowest of our modern epoch. We have no reason to suppose that mind and brain and skull-modification, could go on quicker than that of the other parts of the organisation, and we must, therefore, look back very far in the past to find man in that early condition in which his mind was not sufficiently developed to remove his body from the modifying influence of external conditions, and the cumulative action of "natural selection." I believe, therefore, that there is no *a priori* reason against our finding the remains of man or his works, in the middle or later tertiary deposits. The absence of all such remains in the European beds of this age has little weight, because as we go further back in time, it is natural to suppose that man's distribution over the surface of the earth was less universal than at present. Besides, Europe was in a great measure submerged during the tertiary epoch, and though its scattered islands may have been uninhabited by man, it by no means follows that he did not at the same time exist in warm or tropical continents. If geologists can point out to us the most extensive land in the warmer regions of the earth, which has not been submerged since eocene or miocene times, it is there that we may expect to find some traces of the very early progenitors of man. It is there that we may trace back the gradually decreasing brain of former races, till we come to a time when the body also begins materially to differ. Then we shall have reached the starting point of the human family. Before that period, he had not mind enough to preserve his body from change, and would, therefore, have been subject to the same comparatively rapid modifications of form as the other mammals.

If the views I have here endeavoured to sustain have any foundation, they give us a new argument for placing man apart, as not only the head and culminating point of the grand series of organic nature, but as in some degree a new and distinct order of being. From those infinitely remote ages, when the first rudiments of organic life appeared upon the earth, every plant, and every animal has been subject to one great law of physical change. As the earth has gone through its grand cycles of geological, climatal and organic progress, every form of life has been subject to its irresistible action, and has been continually, but imperceptibly moulded into such new shapes as would preserve their harmony with the ever changing universe. No living thing could escape this law of its being; none could remain unchanged and live, amid the universal change around it.

At length, however, there came into existence a being in whom that subtle force we term *mind*, became of greater importance than his mere bodily structure. Though with a naked and unprotected

body, *this* gave him clothing against the varying inclemencies of the seasons. Though unable to compete with the deer in swiftness, or with the wild bull in strength, *this* gave him weapons with which to capture or overcome both. Though less capable than most other animals of living on the herbs and the fruits that unaided nature supplies, this wonderful faculty taught him to govern and direct nature to his own benefit, and make her produce food for him when and where he pleased. From the moment when the first skin was used as a covering, when the first rude spear was formed to assist in the chase, the first seed sown or shoot planted, a grand revolution was effected in nature, a revolution which in all the previous ages of the earth's history had had no parallel, for a being had arisen who was no longer necessarily subject to change with the changing universe—a being who was in some degree superior to nature, inasmuch, as he knew how to control and regulate her action, and could keep himself in harmony with her, not by a change in body, but by an advance of mind.

Here, then, we see the true grandeur and dignity of man. On this view of his special attributes, we may admit that even those who claim for him a position as an order, a class, or a sub-kingdom by himself, have some reason on their side. He is, indeed, a being apart, since he is not influenced by the great laws which irresistibly modify all other organic beings. Nay more; this victory which he has gained for himself gives him a directing influence over other existences. Man has not only escaped "natural selection" himself, but he actually is able to take away some of that power from nature which, before his appearance, she universally exercised. We can anticipate the time when the earth will produce only cultivated plants and domestic animals; when man's selection shall have supplanted "natural selection"; and when the ocean will be the only domain in which that power can be exerted, which for countless cycles of ages ruled supreme over all the earth.)

Briefly to recapitulate the argument;—in two distinct ways has man escaped the influence of those laws which have produced unceasing change in the animal world. By his superior intellect he is enabled to provide himself with clothing and weapons, and by cultivating the soil to obtain a constant supply of congenial food. This renders it unnecessary for his body, like those of the lower animals, to be modified in accordance with changing conditions—to gain a warmer natural covering, to acquire more powerful teeth or claws, or to become adapted to obtain and digest new kinds of food, as circumstances may require. By his superior sympathetic and moral feelings, he becomes fitted for the social state; he ceases to plunder the weak and helpless of his tribe; he shares the game which he has caught with less active or less fortunate hunters, or exchanges it for weapons which even the sick or the deformed can fashion; he saves the sick and wounded from death; and thus the power which leads to the rigid destruction of all animals who cannot in every respect help themselves, is prevented from acting on him.

This power is "natural selection"; and, as by no other means can

it be shewn that individual variations can ever become accumulated and rendered permanent so as to form well-marked races, it follows that the differences we now behold in mankind must have been produced before he became possessed of a human intellect or human sympathies. This view also renders possible, or even requires, the existence of man at a comparatively remote geological epoch. For, during the long periods in which other animals have been undergoing modification in their whole structure to such an amount as to constitute distinct genera and families, man's *body* will have remained generically, or even specifically, the same, while his *head* and *brain* alone will have undergone modification equal to theirs. We can thus understand how it is that, judging from the head and brain, Professor Owen places man in a distinct sub-class of mammalia, while, as regards the rest of his body, there is the closest anatomical resemblance to that of the anthropoid apes, "every tooth, every bone, strictly homologous—which makes the determination of the difference between *Homo* and *Pithecus* the anatomist's difficulty." The present theory fully recognises and accounts for these facts; and we may perhaps claim as corroborative of its truth, that it neither requires us to depreciate the intellectual chasm which separates man from the apes, nor refuses full recognition of the striking resemblances to them which exist in other parts of its structure.

In concluding this brief sketch of a great subject, I would point out its bearing upon the future of the human race. If my conclusions are just, it must inevitably follow that the higher—the more intellectual and moral—must displace the lower and more degraded races; and the power of "natural selection", still acting on his mental organisation, must ever lead to the more perfect adaptation of man's higher faculties to the conditions of surrounding nature, and to the exigencies of the social state.* While his external form will probably ever remain unchanged, except in the development of that perfect beauty which results from a healthy and well organised body, refined and ennobled by the highest intellectual faculties and sympathetic emotions, his mental constitution may continue to advance and improve till the world is again inhabited by a single homogeneous race, no individual of which will be inferior to the noblest specimens of existing humanity. Each one will then work out his own happiness in relation to that of his fellows; perfect freedom of action will be maintained, since the well balanced moral faculties will never permit any one to transgress on the equal freedom of others; restrictive laws will not be wanted, for each man will be guided by the best of laws; a thorough appreciation of the rights, and a perfect sympathy with the feelings, of all about him; compulsory government will have died away as unnecessary (for every man will know how to govern himself), and will be replaced by voluntary associations for all beneficial public purposes; the passions and animal propensities will be restrained within those limits which most conduce to happiness; and mankind will have at length discovered

* M. Guizot says: "For myself, I am convinced that there is a destiny of humanity, a transmission of the aggregate of civilisation." (*Civilisation in Europe.*)

that it was only required of them to develop the capacities of their higher nature, in order to convert this earth, which had so long been the theatre of their unbridled passions, and the scene of unimaginable misery, into as bright a paradise as ever haunted the dreams of seer or poet.*

The PRESIDENT proposed a vote of thanks to the author of the paper, and the meeting passed it unanimously.

The following discussion then took place.

MR. LUKE BURKE said: No one will be surprised at my saying that the lecturer has made the very best of his case. That would be naturally expected, from what we know of Mr. Wallace's antecedents. I have only had the pleasure of hearing one paper from him, but that has given me very great interest and very great respect for his talents. If it had been possible to make a good case out of the theory which has been proposed, Mr. Wallace would have done it; but, unfortunately, the case appears to me to be altogether hopeless. I have three fundamental objections to urge against his theory, and I will confine myself to these; although, of course, there are many minor objections that would occur in regard to incidental remarks. I must, however, not forget to say that the theory by which he accounts for the permanency of human forms as contrasted with the inferior animals is exceedingly ingenious; but, unfortunately, it assumes that one part of the organism can gradually be modified without the requisite correlations in the others. It divorces our power of judging of the mind from the body; and I affirm that we have that power mentally, and not necessarily from the shape of the head. If we had sufficient intelligence, from any one part of the body, we ought to be able to infer everything else, internal and external. We cannot. The cypher is there, only we cannot read it. However, the first objection I have to urge against the theory of Mr. Darwin is, that it completely loses sight of the real point at issue—that it does not state the proposition correctly. The point at issue is, not whether these various external influences—food, climate, exercise, etc.—are capable of producing modifications; though, even there, I am perfectly ready to meet it. But the point at issue is this, Can they produce the modification actually required? Can they change one set of harmonious forms into an absolutely different set? Can they change one mechanism into another? Can they change that wonderful mechanism which you call wolf into that other equally wonderful and distinct set of proportions which you call greyhound, poodle, or spaniel? It is very well for Mr. Darwin to say that changes in one part of the frame will induce changes in the other. I agree with that, because it is done by organic laws; but you might as well say that a change in one part of a watch would superinduce the change in another. Yes, if the change is made by the watchmaker. That is quite another thing;

* The general idea and argument of this paper I believe to be new. It was, however, the perusal of Mr. Herbert Spencer's works, especially *Social Statics*, that suggested it to me, and at the same time furnished me with some of the applications.

and the question we have to determine is, What will change one kind of mechanism into another? In the body of the greyhound there is not a single particle that remains in the same relation as in the body of the wolf; and yet each one is an instance of the most admirable mechanism. That is one point at issue. Then, again, in causation there are two essential ideas—the fitness of the instrument, and adequate power to work it. Now, it is perfectly unphilosophical to assign causation where you are not able to show fitness, unless you are able to prove causation as a matter of fact by other means. No one has attempted to do that; no one can do it. No one can show that the accidental agencies of climate, food, etc., can produce correlated changes in any case whatever. That is not proved as a matter of fact, and you have no right to assume it. For instance, food, when conveyed into the stomach, is converted into blood, and sent as blood to all parts of the system. That is a general action; but can you see anything in food that will lengthen a man's leg, shorten his waist, or *vice versa*, or that will give him a small head or a large one relative to his body? Is there anything in food or climate that can do that? Why, we have not yet been able to prove that climate changes the colour of races, except temporarily, by producing vesicles, etc. That is the second objection, therefore, that in this theory there is no conceivable fitness in the assigned cause to produce the assigned effect. Next, I maintain that it is absolutely impossible that these causes should produce such effects. The fundamental law of the universe is the law of causation. That law is, that there is an inevitable relation between the cause and the effect; that, as causes vary, so must effects vary. If, then, you want to know the unknown cause of a given effect, all you have to do is to find out the known cause of some analogous and similar effect, and then you know that there is a corresponding difference between the causes as between the effect, and also a corresponding resemblance. Now, then, here is the cause of mechanism. All mechanism is one in principle, whether living mechanism or the mechanism produced by man. All imply correlation of parts and functions—adaptation of means to ends. Now, then, do we know of any cause that is competent to produce such things? We do. Intelligence is competent; we see human intelligence doing such things. No cause in the universe except intelligence, then, can produce effects anything like those of intelligence. Surely non-intelligence cannot do it. Surely a non-intelligent cause cannot produce an intelligent effect. And not only so, but intelligence can never act without producing such things. Man never acts intelligently without adapting means to ends. Here, then, we have a case in which mechanism and all the wonders of mechanism are producible by a known cause; consequently all the mechanism of the universe is, argumentatively, the result of intelligence. If, then, we want to know how species originated, we must go forth to those parts of nature where everything is regulated by a determined plan. I will tell you of a case in which you may change types very easily—in a single generation; you do not want infinite time. The simple crossing of types. The crossing of races produces intermediate

racés, and they live and exist. Very well, there is a cause; but that is out of the bounds of the theory of natural selection. That has nothing to do with Mr. Darwin's infinitesimal working. Here comes the difficulty; the crossing of races is rigidly barred within fixed limits. What are you to do out of those limits? How do you get types, then? By a mixture of different breeds of dogs you can get different types and varieties of dogs—some beautiful, some incongruous. Mr. Darwin's theory is admirable for telling us how races die out, but I do not see that it tells us how races come in. That is the point. Well, the crossing of dogs will produce—what? A cow? How does the cow come? Again, Mr. Darwin's theory requires us to start with the species before there can be anything like a change; but how did the species come? How did the first type come? Well, then, I say that the types outside the bounds of crossing come just as the first types come—by the plan of nature. There is one way of perfectly understanding it. In the living organism, you know that the various structures and portions have all their separate organs; you know that a muscle does not develop into a nerve, and that a nerve does not develop into a lung or into blood-vessels. Not only every muscle, but every nervous fibre has its own origin. Well, call this great globe—this cosmos in which we exist—call this an organism, and you have the whole affair. By the laws of that organism, by the plan inherent in that organism, the first type came. The next type came at its pre-determined moment, when a certain state of cosmic influences were provided; just as in the living organism bone never appears before a certain time, just as the brain does not appear before a certain time; or in the world's organism, as geology reveals to us, there are periods when there are only slight changes, and then all of a sudden we come upon entirely new types. You see it is no infinitesimal sliding. Yes, there are a number of contemporaneous forms that present a great number of shadowings, but that is co-existence. You have not shewn the sequence. This, then, is a point at issue. What is it that produces diversities beyond the bounds of species—germs, if you choose to call it so? What was it that originated the first species? I could very easily enter into the question of the varieties produced in the ordinary course of things, but they must all be within the race. They are not varieties beyond the bounds of species. The varieties that take place in the ordinary course of parentage only imply the growth of the species and type; for every type has its life, like the individual. The laws of life are always the same; and consequently types are born and are developed in the succession of generations as a matter of necessity, and then they die and pass away. These, then, are the points we have to examine in the theory. What produces mechanistic changes, and what produced the first type, and what produces the types outside the process of intermixture?

MR. GEORGE WITT: I really have not understood the gentleman who has taken up so much of the time of the meeting. It reminds me very much of the Scotchman's definition of metaphysics: excuse me if I repeat it. "When the party who listens disna ken what the party who speaks means, and when the party who speaks disna ken what he means himsel—that is metaphysics." (*Laughter.*)

MR. BURKE: There is evidently one person who cannot understand, at all events. (*Laughter.*)

MR. S. E. B. BOUVERIE-PUSEY: We have listened to a very eloquent attack on the transmutation hypothesis in general; but I understood that Mr. Wallace did not mean so much to bring that doctrine forward, as to show that, assuming its truth, it would easily explain the phenomena of the races of man, their gradations into each other, and their present permanence. What we are told by Mr. Burke is principally that you can produce variations within the limits of species, but not outside; but that assumes the question whether there is a difference of kind, or species, or variety. Mr. Darwin does two things. He shows how varieties are produced—that is, by the action of natural selection; and he proves (at least in the opinion of many persons, myself included) that there are differences between species and varieties; and, as we know that varieties may be produced by natural selection, we may presume that in a sufficient length of time species and genera may be produced. Some say that it extends to the origin of the universe; but that does not follow. Many suppose the universe to be the creation of one Deity, some of opposite principles; but Darwin does not teach anything of the kind. The whole question raised by Mr. Burke is not touched by the Darwinian hypothesis at all. Mr. Burke has told us very fairly, that we ought to attribute things to such causes as we see in operation. Darwin and Mr. Wallace believe themselves to have proved that natural selection is such a cause. I must confess, however, that the idea in this paper was totally new to myself; and I believe that it must strike every one here as constituting a new era in anthropology.

MR. T. BENDYSHE: The eloquent discourse we have heard from Mr. Burke, has nearly driven out of my recollection the ingenious paper we previously heard from Mr. Wallace. There are still some points, however, which I am able to recollect, and on which I cannot altogether agree with the author. As far as I understood it, the principal scope of the paper was, that in proportion as the intellect of man became developed, he was enabled to triumph over every climatic influence. Now if one thing has been proved more than another about the race of man, it is this, that the inhabitants of temperate climates have been unable to live and flourish either in tropical climates, or in the polar—the hyperborean climates; and *vice versa*. If, therefore, all the intellect of the European is unable to give him the slightest footing whatever in the tropics, what becomes of Mr. Wallace's proposition? This is not a question of natural selection on the struggle for existence between one animal and another of nearly allied species; this is a struggle of an animal with climate. I think that Mr. Darwin in his book has some expression of this kind. He applies the doctrine of Malthus with redoubled force to the animal kingdom. Now the doctrine of Malthus begins with the statement, that any animal or plant, if not checked by others, would in a short space of time cover the whole surface of the globe. He says that is incontrovertibly true. Now I should be inclined to say, that it is unquestionably false, that on the Darwinian theory, any animal could only

cover the globe in process of time if uninterfered with, by ceasing to be the same animal or plant. That is the outside of what any one would admit from Darwin's theory. The very principle of that theory, Mr. Darwin does not exactly see the consequence of. It is not the theory of the struggle of existence between one animal and another, and, therefore, the idea that man, in proportion as his mind becomes developed, is able to overcome all climatic difficulties, is quite contrary to all observed facts. If it be said that the mind of the European is so extremely developed, that he has now lost the power of controlling his physical body—that the pendulum has swung so far that he cannot get it back, how is it that he can produce no effect upon those races of men who certainly have not been developed far beyond the animal, the negro, or the inhabitant of *Tierra del Fuego*? The intellect of the European applied in every possible manner to enable these beings to live outside the zone in which they are born, can no more make them flourish than his own progeny. He can produce no effect on them. They perish in a temperate, just as much as he perishes in a tropical zone. Then again, man in his progress to the highly intellectual European, supposing him to be the descendant of one original tribe or parent, has, we have every reason to believe, passed through all these phases; that he has passed through a tropical epoch, a glacial epoch, a temperate epoch. Now, how is it, if our predecessors have gone through all these forms, that we are incapable of existing in one of those climates in which our ancestors have actually lived? There again the theory fails, and I was unable to see anything in Wallace's paper that would answer this objection. In fact, in his paper, as in the book of Darwin, the struggle for existence has not been contemplated as applying not only to the contest between one animal, and a nearly allied animal, but to other species. It has been considered merely in that light, and not as a struggle, which any animal must have with climatic conditions, if it wishes to spread itself as Mr. Wallace seems to think, an entirely homogeneous race may do, over the whole surface of the globe.

MR. REDDIE: Having recently given my opinion as to the theory of the origin of species at some length, in a paper, I am only anxious now to ask one or two questions of Mr. Wallace, because I should like to have this theory fully developed. But I may observe that I think he has raised a false issue in trying to connect the varieties of one species of living animals with Mr. Darwin's theory, which has nothing to do, strictly speaking, with varieties, but with the "origin of species"—not of varieties—by natural selection. I will not go into the speculative details which Mr. Wallace has very eloquently put before us as regards an imaginary world, which I think were extremely Utopian, and which, when this paper comes to be read and compared with all our experience of the history of the human race in historical periods, will, I think, be found totally inconsistent with all the facts of man's experience. For example, about the cold climates;—those who lived in the coldest climates were to have the best houses and clothes. Then compare the Esquimaux and the English—why, the thing is absurd. But I do not want to go into these details, because they lead us, I think,

very wide of the main question. He told us a great deal about man—man, however, as far as I could make out, before he was man, because it was when he had no intellect or speech—and he expressly told us that the intellect of man and his speech became developed about the same time. Then what I want to know is, upon Mr. Wallace's principle, or any other principle of "natural selection", how this intellect came at all? We have the animal—something I suppose between the man and the gorilla—but it could not speak or think. From whence did this intellect, then, proceed at all? He gave us formerly something new in Darwin's theory, when he told us that the development of the canine teeth was not due to animal food, but to fighting for the females! But I think the Utopia of the past, was nothing compared to the Utopia of the future, as painted by Mr. Wallace. Mankind began a homogeneous race—he did not tell us whether a white or a black race—and it is to end a homogeneous race; and we are all to be so wise, that there are to be no wrongs or evils! Meantime, I shall be glad to hear Mr. Wallace explain how intellect was developed according to his theory in this curious being, whom I do not know how to describe, except by calling him "man before he was man".

MR. CARTER BLAKE: The most able paper of Mr. Wallace has given so clear an account of his theory, and Mr. Bendyshe and Mr. Pusey have so clearly expressed some of the criticisms I intended to have made on it, that I shall not detain you for a long period. One or two of the points to which Mr. Wallace called attention are, however, still open to debate. With respect to our knowledge of human history, is it a fact that the nations that have been extirpated by other nations, whose ethnic eras have been followed by other successive nations—is it a fact that they were inferior, either intellectually or physically, to the nations that came after them? Let us take an example in the case of the Basques. The Basques have been almost entirely extirpated from Western Europe. At one time, they occupied a large area; while at the present time, they are confined to very limited areas in Spain and France. But we know absolutely nothing about the history of the Basques, and we are not entitled to affirm that they were in any way inferior to the early savage Teutonic or Celtic nations that immediately extirpated them. This seems an important objection to some of the instances which Mr. Wallace has brought forward. Again, let us take the instance of the Celtic nations. We know that the Celtic nations, especially the Gauls, were driven westwards by the Frank or Teutonic nations; but if we compare the early traces of civilisation, which are afforded to us by the evidence of the most reliable contemporary historians, we know that the early Gauls, at least during the Roman period, were in a far higher degree of civilisation than those Franks who ultimately drove them before them, and who now occupy so large a portion of the French and Western German areas. There seems, in point of fact, to have been no intellectual inferiority between the Celtic and the Teutonic nations, and also no physical inferiority. It is true, that if we take some few striking examples of Scandinavian skeletons and measure their height, we see that the Scandinavian nations are those that usually comprise men of great stature, but when

we take a fair average, not upon the whole higher or stronger men than those of the indigenous Celtic stock. There seems to have been no physical superiority of the Teutonic nations, and therefore when we apply this theory of the extermination of weak physical frames in the struggle for life—which struggle has undoubtedly operated in those inferior types of men (inferior as they were at that time) I fail to see what is the object that this theory of natural selections effects as to the extermination of these forms of life in Western Europe, so far as history gives us information on the subject. Then, with respect to there being a certain correlation between the structure of man and the locality in which he lives, if we examine a great many tribes of men at this time, there is not the slightest correlation between the structure of man and his habitat. For example, in the tropical countries we have certain races with a thick skull, and there have not been wanting theorists—I will not call them anthropologists—that have imagined that such thickness of skull was given to those nations as a beneficent provision to enable them the better to survive under the burning sun. Such is one version of the story, and I fear that the advocates of the theory of natural selection would adopt a similar style of argument. They would tell us that there are men of a certain average thickness of skull, in warm climates that those men who had a skull of greater thickness would in process of time survive, and that the thin-skulled races would in process of time die out. Well, such a thing may have some foundation in truth. But in India, where the sun is as torrid as in any other part of the globe, we find a nation that has the thinnest skull. I confess, therefore, that I do not see the connection between the structure of superior animals and the circumstances in which they live, any more than I see in all cases the connection between the adaptation of the structure of the inferior animals and the circumstances in which they live. Anthropologists will in the course of time adopt this style of argument; and as to the reference which has been made to final causes, that, I think, is quite a bygone style of argument. Then Mr. Wallace has hinted that we may, perhaps, be entitled to consider man as the commencement of an entirely new order of things. This may be so. Of course, we cannot say when a new order of beings may commence or end. But what are the proved facts? That man is more like the inferior animals—at least, more so than anything else on earth; that, taking the arguments of the transmutationist on its lowest, most generalised, and most simple aspect, man is a great deal more like the gorilla and chimpanzee than the whale, or than any hypothetical sort of animal that may belong to a new order of beings. Then, with respect to man controlling nature. I do not know how he does so. It appears to me that he is subject to just the same diseases and vicissitudes of climate as inferior animals. The drought or the loss of food that exterminates the inferior animals exterminates man; and I do not see how man can be excluded from simple physiological laws, by saying that civilisation controls nature. Of course, it does to a certain extent; but civilisation has been utterly inadequate to take man out of the power of ordinary diseases, and those climatic effects which influence human

beings as well as inferior animals. Having made this criticism, I hope that these observations will not be taken as against the theory of transmutation of man from the inferior animals. That theory has great probabilities in its favour, and will no doubt be borne out by facts. Whether the Darwinian theory can help us is another question; and, in the meantime, such papers as Mr. Wallace's will be in the highest degree valuable. I am sorry that his propositions should have been so remarkably misrepresented as they have been this evening. The whole theory of Mr. Darwin seems destined to pass through an age when it will be utterly misconceived and misrepresented by the general public, and a great evidence in its favour appears to be the amount of misrepresentation and divergences in the different versions, and that are placed in the scale respecting it. In respect to Mr. Burke's remarks, I shall not detain you very long. Mr. Burke commenced by saying he would lay down three general propositions. I did not understand what they were, but I mentally classed his remarks under three distinct heads—the statement of facts which I accept, of facts which I deny, and of facts which I did not understand. I will begin with facts which I accept. He has told us that an animal like a dog or a wolf never produces a cow. Mr. Burke and I are in perfect accord upon that topic, and I doubt not that Mr. Wallace and Mr. Darwin will be also. He also tells us that he never knew a nerve to develope into a muscle, or into lungs, or blood-vessels. Neither did I; and I believe those are the two principal facts of Mr. Burke, which I accept most unqualifiedly. But then he has told us what are the fundamental laws of the universe applied to man. I am sorry I don't know them, and I humbly doubt if any of us know them—we are here this evening as a society to try and discover some of the laws which regulate man. I for one, do not know what those fundamental laws may be, that may hereafter be discovered. Mr. Burke has also compared man to mechanism, and carried out the old illustration of man and the watch, showing that if you attack the mainspring certain consequences will follow. Gentlemen, the day is utterly past and gone when such an argument could have the slightest value in biology. We know that nothing that lives and moves and has its being in nature, bears the slightest analogy to mechanism in any way. Mr. Burke has told us that there are certain limits within which we can say that the hybrids are, or are not fertile in the human species. I for one, must deny this. I know not whether Mr. Burke, who knows the fundamental laws of the universe, may have some special information, but all the evidence which Broca and the best French authorities, or their brother anthropologist of America, Dr. Nott, can bring to bear, tells us distinctly that we cannot predict the limits in which hybrids are or are not fertile. The time will come, I doubt not, when we shall be able to do so; and a work will soon be laid before us, translated from a memoir by the secretary of our sister society in Paris, which will give some known facts on the subject. Till then, I submit, it is waste of time to discuss it.

MR. BURKE: I can only say, gentlemen, that I was bound in my address to give argument, but I was not bound to give understanding.

MR. PUSEY: I do not want to occupy the time of the Society, but it occurred to me that the fact of the congregation and yet non-transmutation of the human race, might possibly be explained by supposing, on Darwin's hypothesis, that he proceeded from one stock, but that he is now separated into different species. We do see species in the lower animals approaching one another—we see dogs, for instance, approaching to the wolf; but we do not see species ever transmuted into one another. But if we suppose distinct species to have had a common origin, the transmutation hypothesis might account for the facts.

THE PRESIDENT: Before I call upon Mr. Wallace for his reply, I will make a few observations. I was, in common with yourselves, charmed with the paper; indeed, I was so much charmed, from the elaborate promises made in the opening of the paper of what "natural selection" could do, that a feeling of disappointment came over me at the conclusion, that those promises, which we were told would set to rights the difficulties of anthropologists, were not quite verified. When the author asserted that those difficulties would be set to rights by the principle of "natural selection," I do not think he sufficiently weighed the evidence that warranted him in making that assertion. I think it a pity that the two subjects of Darwin's hypothesis and Mr. Wallace's paper should have been so mixed up this evening; it would, perhaps, have been better if we had confined our remarks to subjects touched on in the paper. It appeared to me that the paper we have heard dealt very largely with assumptions. Mr. Wallace told us that man may have sprung from one race; indeed, he goes further, and says he must. Now, really this seems to me to be hardly a satisfactory argument. I hardly could have expected that the theory which was going to solve all the difficulties would at once make such an assertion, and I could not discover in the whole of the paper any facts that warranted the assertion. There is no doubt that hypotheses like Mr. Darwin's, and the one brought forward this evening, have a very great charm, because they attempt to explain so much. Does Mr. Wallace attempt to found his theory on known facts? If he does, then he failed to give those facts in his paper, and I am under a very strong impression that he has no facts to bring forward.

MR. WALLACE: What facts?

THE PRESIDENT: Mr. Wallace asks me to specify the facts I allude to, and I have no objection to do so. Now, what do we learn from archæology? Take the whole of the remains of different continents, and what do we find? Go to America, and what do we find there? Do we find any indications of a different race dwelling there from the race of men that now exists? Not at all; and so wherever we go. Of course, if you go and take a Neanderthal skull as a type of a race, although there is good evidence to believe it simply the skull of an idiot, you beg the whole question. Mr. Wallace's theory appears to me not to be warranted by our present knowledge, and we cannot, I think, accept it. If the object of the paper is to assist in founding a science, that does not appear to have been carried out in the eloquent

appeal which has been addressed to-night to the imagination. I must say that the opposite side has been equally imaginative. Mr. Burke, for instance, pronounces the thing to be impossible—a statement that is of course equally absurd. Assertions on either side stand for just nothing. And then the author of the paper tells us that man must have existed from a very remote period—the author says ten millions of years. Well, we have, of course, no objection to that; any quantity of time is at the disposal of any speculative philosopher. And then he brings rather a charge against anthropologists—that they look to that portion only of the truth that is on their side, and insist on looking at the errors on the other side. I hardly think that such a statement is fair to anthropologists, ethnologists, and ethnographers; on the contrary, I believe there are many anthropologists living who are at least as capable of looking at the whole facts as any disciple of Darwin. I think there are men in Europe who do not simply look at facts which favour their own side, but who look at facts as a whole, and look at them fairly, and endeavour to interpret what may be truth from a careful examination of the whole evidence. We are told that the Portuguese and Spanish retain their characteristics in South America. That is an assertion which ought to have some evidence to support it. We are told that the Jews everywhere remain the same. I think this is an argument that Mr. Wallace puts into the mouth of a polygenist.

Mr. WALLACE: Alike in features.

The PRESIDENT: If they are alike in features they will be alike in other characteristics. This is no evidence at all. I am perfectly aware that there is no change in craniological development and stature, and the mere change in the colour of the skin is temporary.

Mr. BOLLAERT: They lose their prolific character.

The PRESIDENT: Yes, on removal to climates that do not suit them; just as you cannot propagate a European race in India. Then he tells us that the best of the argument is for the principle of the diversity of the human race; and no doubt the polygenists will be glad to hear that they have the best of the argument. Now, Mr. Wallace very frankly admits, in opposition to some of the recent disciples of Mr. Darwin, that man differs from the ape very little in physical structure. I believe that some of his disciples now have come to say that there is a very great difference, and that a Neanderthal skull only approaches very little towards the ape. It is a pleasant thing to find one Darwinite, at least, true to his colours, and not frightened away from them by the clamour of the mob. Then he tells us that a hardy and more prolific race will be developed—a very provident race, too. I don't know, by the way, the physical characters of a provident race. I should be glad to know how this provident race is going to be produced? And then we have the statement that the Mexican government came from the north: but that is open to discussion, like all the other statements. Again, there is another assertion: that the ancient Britons were in a savage state at the time of Julius Cæsar. Is that really a fact? Has it any but the barest traditional historic evidence as a foundation? It is not

founded on known facts: but on tradition called history. It is brought forward as an argument to say that the Britons were slaves and savages two thousand years ago, and therefore that some people that are savages now will in that time be equal to us. But the whole thing is an absurdity, inasmuch as you cannot prove the fact, except on the barest traditional evidence. We were told of "natural selection" by virtue of external causes; now we are told of the inherent power; but this is surely wrong. There must be some mistake here, because the principle of selection is based on external circumstances. I should therefore expect Mr. Wallace, for the benefit of his argument, to withdraw the expression "inherent power." As to man being without the faculty of speech, I thought that speech was man's distinguishing characteristic. Professor Huxley, following Cuvier, at least says so. Then we are told that man can take away the power of natural selection. Well, if man can do that, what a powerless thing natural selection must be. If man, little man, even civilised man, has the power to take away this so-called law of natural selection, what a powerless law it must be. At the same time, I would say nothing against the law of natural selection as an hypothesis. It stands on its own merits as a purely philosophic speculation, but forms no part of inductive science. We ought always to make a great distinction in that. I put the Darwinian hypothesis just in the same category with any other hypothesis that can be brought against it on the same subject. Neither is more acceptable than the other, and it is only a question which can be proved. However, in all these matters we like a little poetical license; and I must confess that I listened with some pleasure to the beautiful dream that the author of the paper called up at the end. Although he did not satisfy me with science and with facts, he thoroughly satisfied me with the after-destiny of man. But the curious part of the case was that man's external characters were always to remain the same. That I do not like, and think that is a mistake. But his mind was to be advanced and improved without any development at all of the brain. All the other characters were to exist, though there was to be no individual inferior to the existing highest races. Well, that is satisfactory for some of the lower ones; they will not exist at all events. Then Mr. Wallace said that we were all to be equal; but that seems to be a long time off. Again, government will be unnecessary. Of course, that is a great blessing, I admit. Passions will not exist; or they will be ordered in a temperate manner, and exactly in accordance with man's physical formation. And all this is to be with exactly the same brain organisation as now. I suppose the laws of natural selection will entirely change the whole functions of the brain, and the whole functions of man will be changed, although his physical character will remain the same. Now, I hope that the author of the paper, for his own credit, will withdraw the whole of this dream, and not mix up these two subjects. As students of science we must object to this sort of dreaming, because it cannot be based on evidence. Some members of this society are accused of bringing forward speculations; but none of them have yet brought forward anything a thousandth part

as speculative as this. I do hope that Mr. Wallace will make us understand that he does not insinuate that this dream has anything to do with his theory, or with Mr. Darwin's hypothesis, and then, I am sure, we shall all be very much indebted to him for coming before us this evening. Although I may regret that his own theory has not been better established; yet his paper shows most conclusively the exact position of the present state of Darwinianism. I believe this is the first occasion in which we have had a clear logical statement of the position in which the theory of transmutation by external circumstances now stands in reference to Anthropology; and I am sure you will all agree with me in heartily thanking the author of the paper.

Mr. WALLACE: Before I begin *seriatim* to notice a few of the objections made to my paper, I should like to correct a slight misapprehension which Dr. Hunt has made, while fresh in my memory. I have been obliged, in order to compress my remarks, and at the same time to make my meaning clear, to use expressions which are, perhaps, not logically accurate.¹ In the latter part of the paper, the argument is the contrast between change of body and change of mind. By the former was meant change of organisation, of the limbs particularly, and of other external physical characteristics. By the mind I always include the brain and skull—the organ of the mind—the cranium and the face; and therefore, when I afterwards contrasted change of external form with change of mind, of course I do not mean to say that the cranium which contains the organ of mind was stationary.² Therefore, I beg to be understood that there is no contradiction in my argument,—that man may advance to this high state of civilisation, while his physical frame remains unchanged. Mr. Burke's observations have, to a great extent, been answered by several speakers. I would say that they appeared to me totally to misrepresent the purport of my paper. Of course it was seen that, to a certain extent, it was impossible to go into details with respect to this subject of natural selection, and I only brought forward my illustrations of it to refresh the memory of those who are not thoroughly acquainted with the whole theory. I do not now argue generally for that theory; I merely show how it applies to a particular doctrine of anthropology. I endeavoured to apply it in a way in which it has not been applied before. I will now pass on to notice the special objections that have been brought forward to my theory. Mr. Burke's arguments were all against the theory of natural selection itself; but Mr. Darwin has argued it so well that it is impossible for me to add anything. The two next gentlemen who spoke agreed with me generally. Mr. Bendyshe objected to my statement, that man, to some extent, triumphs over nature; and he argued that man does not triumph over climate, because Europeans cannot live in the tropics, and the natives of the tropics cannot live in Europe. First, I say that there are facts to show that that is not absolutely the case. There are cases in which Europeans have gone and resided in the tropics, and, as far as we can see, live there to this day perfectly well. One particular case I will mention. In the interior of South America, on the eastern slope of the Andes, the head waters of the Amazon,

there is a district quite isolated from the rest of the world, cut off on the one side from the Pacific by the Andes, and on the other side by the intervention of Brazil, no communication of any kind having been allowed till recently. In this upper valley of the Amazon there is a large population, purely European, or at least very nearly so. There are a number of towns and cities there, numbering ten, fifteen, and even twenty thousand inhabitants. No doubt the race is partly mixed,—we cannot say how much, but my friend, Mr. Spruce the botanist, describes them to me as actually whiter than the Brazilians, remarkably white for a south European race. He was astonished to come upon so large a population, which knew nothing of any other part of the world. They are the descendants of some of the Spanish settlers. Here, then, we have the case of a European population transferred to a tropical country.

Mr. BOLLAERT: Will you name some of those cities?

Mr. WALLACE: Well, Tarapoto, and Moyobamba.

Mr. BOLLAERT: I should say that the population was two-thirds Indian; certainly a mixed race.

Mr. WALLACE: I got the information from a gentleman who has resided there, and he assured me that the mass of the population was white.

Mr. BOLLAERT: There is a great deal of Indian blood.

Mr. BENDYSHE: What is the altitude?

Mr. WALLACE: Not more than a thousand feet above the sea. The plain of the Andes is perfectly flat.

Mr. BOLLAERT: If there is Indian blood there, that is the very point.

Mr. WALLACE: But it is urged, that directly you get a cross you get infertility; and yet here there are immense numbers.

Mr. BOLLAERT: I doubt extremely the immense numbers.

Mr. WALLACE: I can only give the facts as they were given to me. If they are wrong, they can be disproved; but the question does not depend upon that; for admitting that man may not be able to stand a sudden change in climate, yet, supposing that the change were a slow one—supposing that Europe were gradually sunk beneath the sea from the north, so that we were gradually shoved, as it were, into a tropical climate at the rate of a few miles in a century,—do you not think that natural selection would act so that the race would stand the climate? I do not think we should all die out. All the facts of nature seem to be opposed to such a supposition. The dog has stood all over the world with us notwithstanding the climate.

Mr. BLAKE: May I ask the historical evidence of the migration of dogs?

Mr. WALLACE: I cannot now go into that. Dogs are carried by man all over the world.

Mr. BOLLAERT: And they die.

Mr. WALLACE: Mr. Reddie began by saying that Mr. Darwin's theory had nothing to do with varieties. Now, from my study of the theory, it appeared to be all founded on the study of varieties. The whole argument is based on varieties, showing that they merge gradually into species.

Mr. REDDIE: What I meant to say was, that it was not limited to varieties.

Mr. WALLACE: I thought you said it had nothing to do with varieties. Then, another very strong argument was that the Esquimaux, notwithstanding their bad climate, do not build good houses, not so good as Englishmen. I have asserted that man, in his progress from a low to a high state, would be assisted by the necessary discipline of a harsh climate, which would make him exert his mental faculties much more than a tropical climate. Now, I think that is almost self-evident, and is not at all affected by the fact that the Esquimaux are less intelligent than the English. The question is, "Do they build houses at all? Yes; and very good ones. Travellers describe how ingeniously they build their snow houses; and the manner in which they make their clothing and sledges shows that they are not so low intellectually as most of the inhabitants of tropical countries. Mr. Reddie also wants to know how the intellect came at first. I don't pretend to answer that question, because we must go so long back. If Mr. Reddie denies that any animal has intellect, it is a difficult question to answer; but if animals have intellect in different proportions, and if the human infant, the moment it is born, has not so much intellect as an animal, and if, as the infant grows, the intellect grows with it, I do not see the immense difficulty if you grant the universal process of selection from lower to higher animals. If you throw aside altogether, this process of selection, you need not make the objection about the intellect. Mr. Blake made a few objections, which may have some little weight. The principal was that we have no evidence to show that when one race, or nation, or people are exterminated, or driven out by another, the one that is so exterminated is necessarily inferior; and he wanted to show either by historic evidence or by remains of bodies that it is impossible to say that the Celtic was inferior to the Teutonic, or the Basque inferior to the race which drove them out. Now, it appears to me that the mere fact of one race supplanting another proves their superiority. It is not a question of intellect only, nor of bodily strength only. We cannot tell what causes may produce it. A hundred peculiarities, that we can hardly appreciate, may cause the one race to melt away, as it were, before the other. But still there is the plain fact that two races came into contact, and that one drives out the other. This is a proof that the one race is better fitted to live upon the world than the other. Mr. Blake says that there is no necessary correlation between man and his habitat; and he endeavoured to show that, by proving that the thickness of the crania does not vary in accordance with the heat of the sun. No doubt such an objection is very easy to make; but we must consider, is it at all likely that we shall be able, by our examination, to appreciate this correlation, whatever it may be. For instance, you take two animals; one lives in a northern hemisphere, the other in a southern,—one in a wet country, the other in a dry one. Can you tell me why these two animals are fitted to live in their respective climates? They may be so closely allied that you can hardly find out their differences; and if you cannot find out the

difference in animals which serves to adapt them to the climate, is it likely you can find out the difference in man? But there are facts which show that there is a correlation between man and his habitat. For instance, take the case of the inhabitants of West Africa, who stand the fever and malaria of that country; and it is the same in New Orleans. It is asserted in America, I believe, that one-fourth of black blood is enough to save the individual from the yellow fever in New Orleans. This is a striking case, I think, of correlation between man and his habitat. Then again, as to the prevalence of black-skinned races in the tropical regions, I do not believe that there is any special production of the black skin by the heat of the sun; but I believe that because the black skin is correlative to the hot sun, the black skinned constitution is best adapted to stand the diseases of the climate, and the process of natural selection has preserved them. If we find a people who are apparently not well adapted to stand the climate, we have some reason to believe that they are a comparatively recent immigration into the country. My friend, Mr. Bates, who is not here, has supported this theory from his observations on the Amazon, asserting that the inhabitants of tropical America are a recent introduction. He comes to that conclusion from a great many peculiarities of manners and customs, and if so, it is a corroboration of the argument that races do become correlated to the climate in which they live. Mr. Blake objected to my statement, that man can to a certain extent control nature. He asserted that man could not control disease; but that was not the point I went upon. I especially mentioned the point on which man can control nature,—raising himself by his intellect above the action of natural selection, which changes the forms of other animals, because they could only be kept in harmony with the universe except by being changed; whereas man is kept in harmony by his mind. (Again, no weak animal—no animal born with a sickly constitution—lives to propagate its kind: but man does. Hundreds of weak individuals live to a comparatively healthy and comfortable old age, and have large families. This is a special case, in which man controls nature differently to the animals. He controls nature so much that he is an exception to all the rest of animated beings.) Dr. Hunt made a great many special objections. He says, I disappointed him, because I promised to explain everything. I must say, I did not. I simply proposed to myself to explain, or rather to suggest, a theory which should do away with this difficulty of the absolute contradiction between two classes of ethnologists, commonly called the monogenists and the polygenists, by showing that both were right. I think that is a most satisfactory way of harmonising people that differ. Again, he objects to my using the expression “must have been”. Well, I put in the words “I believe,” and “according to the Darwinian theory”, because, according to that theory, every group of species arises from one, every group of varieties from one, every group of individuals from a pair; therefore, if you do but go far back enough, you must come to a unity of origin. If that theory is utterly wrong, then my argument goes for nothing. Then Dr. Hunt says I did not

give facts enough. Well, first you are aware that in a subject like this, if a sufficiency of facts were given, they would fill a volume; consequently, I was obliged in this paper to sketch and allude hastily to facts. Dr. Hunt asserts, that archæology shows that the ancient races were the same as modern. Well, that is a fact I quoted on my own side, and his quoting it against me only shows that you can twist a fact as you like. I quoted it as a proof that you must go to an enormous distance of time to bridge over the difference between the crania of the lower animals and of man. I said, perhaps a million, or even ten millions, of years were necessary. If my argument is correct, it is a logical conclusion. Dr. Hunt objects to my using an expression to the effect that students are rather dogmatic in assertions of this kind. Well, I think I could bring forward facts to prove this; and I should think that anybody who knows anything of the literature of the subject, would agree with me that there is the strongest feeling on both sides that they are right, and that they express their feelings in the strongest manner, and that each party is inclined to look down on what it believes to be the absurd ideas of the other. Still, I do not deny that there are some who do not manifest this dogmatic feeling. With respect to the fact about the Portuguese and Spaniards in South America, I can assert it on my own authority, because I have lived among them, and have seen European families in tropical countries who have been there for many generations. I may name the town of Amboyna, in the Moluccas, where there are families that have kept their blood pure for three hundred years, as fair skinned, and in every respect like Dutch men and women.

Mr. BOLLAERT: Have not fresh families been sent out to them from Holland?

Mr. WALLACE: Possibly so.

Mr. BOLLAERT: But that is very important.

Mr. WALLACE: I allow it; but still there is the fact, that this period of time has produced no change. If there was a change, notwithstanding a little fresh blood, it would be perceptible.

Mr. BOLLAERT: More than a little, depend upon it.

Mr. WALLACE: But there is no perceptible difference. Of course, these kind of facts are the most difficult in the world to get at. You cannot isolate men. They will mix; and there is no possible fact you can bring forward but is liable to the same objection. It was thought at one time, by Prichard and the older ethnologists, that it was a strong argument for the unity of the race that the Jews were white, black, and brown. Now, it is known that in every case in which the Jews have changed colour apparently, it has been the Jewish converts who have been treated as Jews, simply because they have embraced that religion. But a better proof than colour is physiognomy, which you see maintained in the Jews all over the world. Physiognomy maintains itself much longer than colour; and it seems as if the physiognomy of the superior race maintained itself much longer than the inferior; whereas the colour of the inferior race is often most lasting. For example, I may mention the descendants of the Portuguese in the Malay archipelago. In a great many towns there

are thousands of Portuguese; some of them keep the Portuguese language; others have lost it; but still Portuguese words crop up all over the land, and there are Portuguese customs and manners and European features; but still they are generally the same colour as the people of the country in which they live. With respect to Europeans not living in India, that is nothing when we remember what a vile climate it is. We live in it as an exceptional race; and if we could bring instances of the third generation, you would say there was mixed blood in them. Then again, Dr. Hunt wanted me to explain how I could use such a word as "provident". Why, is it not perfectly clear that if people live in a country where there is a severe winter, in which little or no food is to be had, that they must provide against the scarcity, and that gradually the race would become a provident race? Therefore, I think I am justified in saying that, given two races of the same capacity, and put one in a tropical and the other in a temperate climate, the one in the temperate climate will become the more provident race of the two. With respect to Britons ever having been savages, I cannot assert that; but I think it would puzzle Dr. Hunt to show that they were civilised. All the evidence we have proves that they were savages, as much so as the South Sea islanders.

The PRESIDENT: Chariots?

Mr. WALLACE: The South Sea islanders had no horses. Well, then, as to the term "inherent," I do not mean to withdraw it. I mean to maintain it as a very proper expression; and the answer I gave to that last question about a provident race, will almost answer for this,—that peculiarities produced gradually by natural selection, or any other cause, become inherent. The very fact of the race being gradually brought into harmony with the climate of the country in which it is, gives it a superior power, and an inherent capacity to maintain it. I do not know whether the words are the same, but the sense is exactly the same as will be found in Darwin's own book, where he points out this extraordinary fact, the bearing of which had never been noticed before, that in Australia, in the Cape of Good Hope, and to a considerable degree in North America—in fact, to a great extent in all the comparatively limited areas to which Europeans go—the weeds of Europe that are carried accidentally thrive and flourish there. They spread over the country, and maintain themselves in competition with the native weeds, showing that they are better adapted for the country than the plants which were apparently specially created for the country. Mr. Darwin explains it on his theory in this manner,—that Europe and Asia, which now to a great extent dry land, have been long in existence as dry land; and that in the immense series of ages during which the changes of the northern continent have been going on, becoming modified from one form to another, sometimes to an inland climate, sometimes to a continental climate, sometimes a mountainous region, sometimes a flat region; owing to that great amount of change, its plants have acquired an immense variety of specialities: because, when a speciality is once acquired, it is not lost. It is handed down and kept in store, as it were, so that the immense mutations which the northern hemisphere has un-

dergone, have given these plants a capacity of adapting themselves to a great variety of conditions. The result is, that directly they are carried into Australia these properties come into play. They have been adapted, in some previous state of the northern hemisphere, to similar conditions, and they have inherited this peculiarity by transmission, and therefore they are capable of driving out the plants of Australia merely by the inherent vigour they have gained. I applied this in illustration of the way in which civilised man has been developed by a great variety of circumstances. The intermixture of races has been very great. We are a mixed race to a very great extent, and therefore we have the capacities and powers of a great many; therefore, when we come into contact with the lower races, we are enabled in the same manner to drive them out. Then, it is said, that man without speech is not man. That is one of my points. I said, if you choose to consider he is not man, then so and so follows; but if you consider he is man, then so and so. And as to the argument, that if man could take the effects of natural selection away, it must be powerless,—that has not much to do with the subject. We might as well say, how powerless life is, because we can take it away,—when such a slight thing as stopping the mouth with pitch-plaster can destroy it. This only shows how easily it can be changed or destroyed; it does not prove its weakness. And so it does not show the weakness of natural selection, because man is able to modify it by putting himself into certain conditions, instead of leaving nature to select those conditions for him. I think I have now answered all the objections; and it is now so late that I really cannot detain you any longer. With regard to the poetical conclusion, I would merely say that I began it by stating that I would point out what I considered to be the bearings of this theory, if it is true. If it is not true, of course my remarks go for nothing; but I do not think myself that the concluding part of the paper is more poetical than true.

The meeting then adjourned.

MARCH 15TH, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

THE minutes of the previous meeting were read and confirmed.

The names of the following new Fellows were announced:—The Right Hon. the Earl of Clarendon; Charles Buxton, Esq., M.P.; the Hon. Capt. Best; J. Jermyn Cowell, Esq.; John Cock, jun., Esq., F.R.H.S. and M.S.A.; J. F. W. Cozens, Esq.; Dr. J. F. Caplin; E. Bartlett, Esq.; R. E. Arden, Esq., F.G.S.; Edward Brown, Esq.; J. Payne Collier, Esq.; W. Fothergill Cooke, Esq.; George Bertram, Esq.; John Cassell, Esq.; E. O. Brown, Esq.; W. T. Cox, Esq.; Henry C. Bingham, Esq.; J. S. Brickwood, Esq.; W. Armitage, Esq.; Edward W. Brabrook, Esq., F.S.A.; T. A. Augustus Land, Esq.; Hon. J. L. Sullivan, of New York; Mark Stirrup, Esq.; Rev. M. A. Moon.

The thanks of the Society were voted to the following gentlemen for donations to the library:—J. S. Brickwood, Esq.; Joseph Dickinson, Esq.; M. de Quatrefages; Geo. Tate, Esq.; the Asiatic Society of Bengal; and the Société d'Anthropologie de Paris.

The following papers were then read.

Notes on some Ethnographical Casts, &c. By HERMANN VON SCHLAGINTWEIT, Esq. Corr. Mem. A.S.L.

A.—1. The *Brahman* is chiefly presented for showing his well-defined Aryan type in opposition to the following casts:

2. The *Gond* and *Bhils*, are decidedly the most savage and the most irregular in features; the upper part is somewhat Negro-like; the lower jaw decidedly more feeble.

3. The *Santals* are much more regular, and approaching the lower castes of Indians than any of the other aboriginal tribes.

4. The *Bhot*, chiefly shows the marked deviation of the *Aryan*; the mixed race between Bot-Yarkand is the latter mixed race; when examined in greater numbers it shows a much more decided tendency to approach the Turkistani types than to be a plain, arithmetical mean.

B.—The body shows a much greater number of qualities characteristic of tribes and castes than might be expected. One particularly striking is, the relative proportion of the ulna and the foot; with Hindoos, particularly the low caste ones, the ulna is longer than the foot; with the Tibetans (and in general with Europeans, ladies not excepted), it is, on an average, equally long. A remarkable fact is, that the Assyrians, in the splendid collections of sculptures by Layard and Rawlinson, are the only nation which, in its representations, at least, shows the foot considerably longer than the ulna; it might appear arbitrary and indifferent, if I had not found in the recent materials now put up in the British Museum that foreign prisoners have the proportion in the uniform type of other tribes. However, a quite positive confirmation must remain, depending upon the finding out of ancient Assyrian skeletons.

C.—Details of my mode of measuring, equally employed by my brothers, you may find in the *Report of the Statistical Congress*, which was held in London (1860, I believe, page 500 of the Report in folio).

E.—In the last publication of the Royal Asiatic Society there will be found communicated by my brother Emile a memoir in relation to the proportions of Buddhist idols which might furnish some data.

F.—As one of the numerous details of a rather unexpected nature might be mentioned, the following result, in reference to the difference of sight with the right and left eye:

An ordinary optometer, such as the very good one of Doppler, in Vienna, was found to be of no use with people of so low a civilisation, as it required too high a sense for accuracy in accommodation, being an instrument somewhat similar to a telescope. But I found it very practical to take a veil, to put it at a distance of from four to six inches, viz., within the distance of accurate sight for "normal eyes;"

I then requested the person to be examined to look at any distant object, and asked, when he had well fixed it, closing myself alternately the one and the other of his two eyes, with which eye he did better see the veil, or less badly see the veil. As this question was unexpected also, prejudice could less interfere with the answer. Now, in a proportion of about six to four, the right eye was less far-sighted, or, what may be considered as the same (as always confirmed when closely examined by a peculiar kind of reflecting instrument), the right eye was the more convex one of the two. As with these people writing and reading does interfere, whilst shooting rather would train the right eye to distant accommodation, the result is the more important. The explanation which appears to me to be the most plain, and, at the same time satisfactory, is, I think, that it coincides with the general stronger powers of muscles on the right half of our body, which coincides with the eye being made more convex, and not quite so far-sighted.

G.—These ethnographical observations are to form the object of vol. vii of our results of a scientific mission to India and High Asia, of which three volumes in 4to and one in 8vo have appeared till now, altogether with an Atlas of fifty-two plates, and that of the entire series of two hundred and seventy-five casts; besides the continental museums, one is in England, and three in India, whilst Mr. Trübner is preparing a new edition in successive groups for the public in general.

On the Domber. By JOHN SHORTT, M.D., F.A.S.L., Zillah Surgeon, Chingleput.

"*Dommarî*" and "*Dombarî*" are Teloogoo and Marathè words, corrupted from the Hindostanee "*Doru*," and applied to a certain low caste of natives supposed to be one of the aboriginal races of India. The corrupted word "*Domber*" is applied to a class of people who perform acrobatic feats, such as rope-dancing, tumbling, pole-climbing, &c., &c., not only the men, but even the women, being great experts in these feats, by which they gain a precarious livelihood. An itinerating camp of these people, usually consisting of about twenty persons, is to be met with in almost every district, a camp always keeping to one district, and never wandering to others.

The Domber are usually tall, and some of them tolerably well made, with a complexion varying from bamboo to copper colour, and in some merging into black. The Mongolian is the predominant type of countenance, evidenced by the somewhat pointed chin and absence of whiskers, large eyes, and prominent cheek-bones; with few exceptions their muscles are not more developed than those of other natives, though, from their habits and evident strength, one would naturally expect to find them a muscular race. A few of the women are tall and well made, with a bold expression of countenance; the best looking are brought up as prostitutes, but the men of the gang have nothing to say to them. They can cohabit with the men of other gangs, and with all others, except Mussulmans, Pariahs, Barbers, and Dhobies. The other women among them are married,

and from these prostitutes are distinguished by the name of "*Vashee*," or harlot; these latter are the women who tumble and dance.

Caste. They are recognised as the Domber caste all over Southern India.

Dress. They dress much in the same manner as other natives, the men frequently wear made trousers and jackets, and the women wear the usual *sari* with the *cholee*, or short jacket, and their dancing women, when about to perform, twist their clothes tightly round their legs like trousers; these women are usually better dressed, and wear more clothes than the others. The men make their own clothes, and the women their own jackets; both men and women seem to sew very well.

Ornaments. Like natives in general, the men wear nose-ear- and finger-rings, armlets, &c.; the women wear ear-nose-finger- and toe-rings, necklaces, armlets, bracelets, and anklets. These usually consist of silver, gold, or brass, the greater number of their ornaments being of the latter. They also make use of glass beads of different kinds and colours, and the women wear necklaces made of these.

Ceremonies. They appoint one of their caste, whose business it is to marry the others, but no particular ceremonies are performed; the bridegroom usually finds liquor for the gang. When a girl attains maturity, she is kept apart for five days, and when a woman is confined of a child she is kept apart for a week. On the first day they give her plain rice, and on the second chillie powder, and "curry-pillay,"* is mixed with the rice. They have no midwives among them. They bury their dead, but no particular ceremonies are observed. They have no religious feasts of their own, but join in all the native feasts.

Language. This is usually Teloogoo, but differs sometimes according to the district in which they itinerate.

Habits. The men and the prostitutes go out during the day, and exhibit their feats in rope-dancing, &c.; the latter ply their own trade after nightfall. Those who do not perform hunt the wild cat, jackal, guana, and other small animals, or fish; some make mats, and wooden hair combs for sale, and the women and children tend donkeys, pigs, &c., of which they usually have a large number, either for use or sale. They marry but one wife; other women may be taken into concubinage. Judging from the number of children among them, they seem to breed freely.

Feats. These are very similar to those performed by the street acrobats in England, and consists of tumbling head over heels, backwards and forwards, walking on stilts, walking, dancing, and sliding on the tight rope, climbing a pole, and twirling round on a pivot at its extremity, the abdomen resting on the pole, and the arms and legs free in the air; placing stones on the mouth, chest, and pelvis, and throwing up others to strike these in their fall. One man walks about with another standing erect on his shoulders or head. Three men stand erect one on the other; the men and women vie with each other in tumbling, &c.

* Leaf of the Kaenigii Bergera.

Villages. As they are constantly itinerating from place to place: they have no fixed village. They generally encamp on the outskirts of a native village, and their stay in a place is indefinite, depending, in a great measure, on their gains. Their huts are portable, and consist of a few bamboos arched over, and covered with mats sewn together, and made of the palmyra leaflets; the centre of the hut is about five feet in height, and it covers a diameter of between five and six feet of ground; each contains a *charpoy*, or cot, about two feet from the ground; the frame is plaited over with ropes, on which two, three, or more people sleep. All their cooking operations are carried on outside. When they travel, their huts are easily taken down, tied together, and carried on donkeys, which are used as pack animals.

Diseases. They are subject to the usual diseases of the district; none of their tribe are skilled in the use of herbs or other medicine; they do what they can in cases of sickness. They do not approve of vaccination, as they believe that it will bring down the anger of their deity on them.

Deities. They worship a female deity, whom they call "*Polaree Amah*," and whose blessing they constantly invoke in all their movements. They are, to a certain extent, superstitious about ghosts, evil spirits, good and bad days, &c.

I here give the heights, measurements, and weights of nine men and three women; unfortunately I could not get a larger number together.

NAMES.	No.	Country.	Age.	Height, inch.	Head.	Neck.	Chest.	Arms.	Thighs.	Weight.
Venketereddy	1	District. (Chingleput)	35	64½	21½	13	31½	9½	16½	102
Rungadad	2		24	73	22	13½	34	10½	18	130
Ragavadoo	3		21	68½	22	13½	34½	11	19½	138
Rhungadoo	4		20	66½	21½	13½	32	9½	17	104
Chengadoo	5		50	67½	21½	13	33	10	18	120
Ellaoxadoo	6		23	63	21½	13½	31½	10½	16½	109
Mooselagadoo	7		35	68½	21	13	32½	9½	16½	108
Venketagadoo	8		17	61½	20	10½	25	6½	13	93
Kunnegan	9		22	66	21	10	30	9½	16	106
WOMEN.										
Lutchee	1	Madras	22	62½	21	11½	31	10	16	108
Ellee	2		14	57½	20½	10	28	7½	14	76
Yenkattee	3		40	63	21	12	33	10½	16½	125
Subhee	4		20	61½	21	12	30	9½	16	110

The PRESIDENT observed, that he knew of no anthropologist who wrote papers in a more scientific manner than Dr. Shortt; and although his communication was very brief and in a great measure technical, it was very valuable from its completeness. He then called on Mr. Pike to read the next paper.

On the Place of the Sciences of Mind and Language in the Science of Man. By LUKE OWEN PIKE, M.A., F.A.S.L.

AMONG the legion of sciences which are necessary to the formation of a Science of Man, there is one which has fascinated philosophers from the earliest dawn of philosophy, and which has advanced only one stage since its birth. So stationary has this unfortunate science been, that there are many who would have us abandon it in despair, and who argue that, where the most powerful intellects of the past have failed, no one can in future expect to succeed. And so deeply seated is this feeling, that by some persons a man who studies psychology is regarded in the same light as a man who believes in the possibility of perpetual motion. Hence it is difficult to say anything upon the subject without fearing that prejudice will put down all that is said either to arrogance or to folly.

Whether this prejudice be well founded or not, it is, I believe, generally admitted that, without a science of mind, a science of man is impossible. All arguments, therefore, for the abandonment of the study of psychology, apply with at least equal force to the abandonment of the study of anthropology; and from this I conclude that the existence of the Anthropological Society necessarily implies an attempt to solve the mysteries of mind.

The object of this paper is to show what I believe to be one or two of the causes of the arrested growth of psychology.

One of the principal causes seems certainly to be man's notion of his own dignity, which prevents him from comparing impartially his own mental endowments with those of the brutes. And this one cause has given rise to a host of prejudices, which in their turn act as so many new impediments to the progress of discovery. Man admits, with reluctance perhaps, that the other *mammalia* approach very near him in construction, and tolerates the science of comparative anatomy. But hint to him that there is a corresponding similarity in the mental constitution of brutes, and he at once feels insulted. Comparative anatomy is bad enough, but comparative psychology is not to be thought of. And yet this sensitiveness is really uncalled for. There is no fear that comparative psychology will fail to exhibit the immense superiority of man to the brutes. It will, should it ever really become a science, show not only that man is above the brutes, but how far he is above them—and this, if I am not mistaken, in no vague terms, but in figures as intelligible as those which mark the difference between sulphurous acid and sulphuric acid. On this subject, I hope, if the Society will do me the honour to listen to me, to say more on a future occasion. For the present, my object is to clear the way by shewing that the difference between the minds of man and of the brute is a difference not of kind, but of degree. Unless this can be proved, comparative psychology, in the sense of a quantitative analysis of different mental phenomena, must of course be given up.

There is not, I believe, any *a priori* reason to suppose that there is a difference of kind between the brute intellect and the human intel-

lect. Whatever difference may exist, must be shewn to exist by evidence, and not taken for granted; and the evidence which bears upon this point will be the basis of comparative psychology, should such a science ever be established.

But, as examples are always preferable to vague generalities, I shall endeavour to show by an example or two what kind of assistance we may expect from comparative psychology, *i.e.* from the comparison of the mental constitutions of man and brute. Could we, for instance, pronounce with certainty that man is the only possessor of a *hippocampus minor* (as was once asserted by Professor Owen), and also the only possessor of "general ideas" (as is asserted by Professor Max Müller), we should have a definite correlation to work upon, from which it might be possible to deduce still more important results. Unfortunately, however, neither of these assertions has been established; nor am I aware that any difference but difference of degree has been ascertained between either the cerebral structure or the mental functions of men and brutes. On the one hand, we find a greater size of brain, a greater number of convolutions, and greater mental power; on the other hand, a less size of brain, fewer convolutions, and less mental power. It may, however, probably be safely asserted that some of the lower types of animal life show higher mental powers than man in proportion to their cerebral and nervous development; this is especially the case among insects, as, for instance, ants, wasps, bees, etc.

It is, I believe, generally, though not universally, admitted that brutes can reason; or, in other words, that the laws of association apply to them no less than to ourselves. And to admit this, is to admit the principle for which I contend—that the intellectual difference between us and them is a difference only of degree. Nor does it seem possible to establish a greater difference between our emotions and theirs. A dog has a sense of shame, which implies what is called a sense of right and wrong, a sense of personal dignity, a sense even of the ridiculous. He is brave, honest, and affectionate; and is not that a good character even for a man? The feelings that may be wanting in one brute are present in another. The cat has the modesty in which the dog is ludicrously deficient. Nay, so conspicuous is the possession of many of our virtues by the brutes, that men have from the earliest times been designated by the name of the animal which seemed to enjoy their particular virtues in the highest perfection. Richard Cœur de Lion and William the Lion are names familiar to every one; the eagle is the most common national emblem; and if philology attributed the Egyptian religious rites to a similar origin, it would not be the wildest prank she has played.

But the best way to establish my position will, perhaps, be to examine the arguments of one of the foremost advocates of the opposite theory. And this examination will best illustrate the bearing of the science of language upon the science of mind.

Professor Max Müller has made these two assertions:*

* Lecture ix, *passim*.

1. "The science of language proves that all root-words expressed 'general ideas'—that the first thing named was the 'general idea'.

2. "Brutes have not 'general ideas'; and therefore we have arrived at the true distinction between man and brute, viz. the 'general idea', and the expression of it, neither of which is possible without the other."

I think it may be shewn that the first proposition is an impossibility, and that the second is directly opposed to fact; and I say this after having carefully weighed the evidence, and in spite of my admiration for the whole of the earlier portion of Professor Max Müller's work.

From an unfortunate confusion of terms, it is not at first sight easy to discover precisely what is Professor Max Müller's meaning. Following the custom of a certain school of philosophy, he uses the word "general", sometimes at least, as synonymous with abstract; a practice which Mr. Mill* characterises, not too strongly, as an "abuse of language", and a "wanton alteration of the meaning of a word". But Professor Max Müller must mean one of three things: that roots were originally all general names, or that they were all abstract names, or that some were one and some were the other. He must mean that classes were named first, or that attributes were named first, or that roots expressed sometimes classes and sometimes attributes. The distinction will be more apparent if we examine two instances. We may suppose that the attribute *whiteness* was expressed by some primary root; or we may suppose that the class *white*, that is to say white objects in general, were so expressed. The difference in the meaning of the two words is thus stated by Mr. Mill.† "Whiteness is the name of the colour exclusively; white is a name of all things whatever having the colour; a name not of the quality whiteness, but of every white object." Snow is white, but snow is not whiteness. Which of these two meanings was expressed by the root, according to Professor Müller?

Let us as a second instance take the word dog. Was this name first given as a name for all dogs, or was some abstract name equivalent to—let us say—"wag-tailiness", given first to a characteristic attribute or quality perceived in dogs, and then transferred to dogs themselves? Or, if this latter alternative be thought too absurd, are we to reject the abstract signification of roots in some cases and retain it in others?

The only way to answer this question will obviously be to examine some of the instances given by the professor himself. But when we attempt to do this, we at once find, in his manner of assigning a meaning to the root, a want of precision which corresponds with the ambiguity in the meaning of the term "general". "*Antrum*," says Professor Müller,‡ "means really the same as *internum*. *Antar*, in Sanskrit, means between and within. *Antrum*, therefore, meant originally what is within or inside the earth or anything else. It is clear, therefore, that such a name could not have been given to any

* Logic, 3rd edition, vol. i, p. 29.

† Ibid., p. 31.

‡ Lectures on the Science of Language, 3rd edition, p. 382.

individual cave, unless the general idea of being within, or inwardness, had been present in the mind. This general idea once formed, and once expressed by the pronominal root *an* or *antar*, the process of naming is clear and intelligible."

The process of naming the *antrum* may be clear enough, but not the original meaning of *an* or *antar*. Did *an* mean *within* or *inwardness*? Was the pronominal root, in plain English, a pronoun, or was it not? Would the first man who used the word have said, "The cave is *an* (within) the earth", or "The relation in which the cave stands to the earth is that of *an* (inwardness)"? Did *an* express the relation between an indefinite number of pairs of objects in the concrete, or was it a name for that relation in the abstract? To this question no answer is to be found in the immediate context. Common sense might perhaps supply one.

The same remarks apply to the meaning assigned to the root *ku*, from which Professor Max Müller derives *cavea* and *caverna*. "The general idea of covering existed in the mind before it was applied to hiding places."† Possibly so; but was it named first—that is to say, was the attribute of covering abstracted from objects which cover, and named before those objects, or was the name applied first to all objects, as a class, which possessed the attribute of covering? In this case, the Professor seems to imply that the attribute—the abstract—was the first signification of the root. "It," he says,‡ (*i.e.* the cavern) was called by the root *ku* or *sku*, which conveyed the idea of to cover." Further on§ there is a passage which can admit of no doubt. "It is the same with all nouns. They all express originally one out of the many attributes of a thing; and that attribute, whether it be a quality or an action, is necessarily a general idea."

By general ideas, then, I think we are justified in concluding that the professor means abstract ideas; and all roots, according to him, expressed abstract ideas, and nothing else. The paradoxical character of this theory is the only excuse I have to offer for the foregoing lengthy, and, I am afraid, tedious examination of Professor Müller's illustrations; but it was, I think, necessary, in order to leave no doubt open about his meaning. And now let us consider to what this theory will lead us. Some attribute, no matter what, must have been the first to receive a name; and at that time all other things must have been nameless. Let us now suppose that the first articulate-speaking man has in his mind or upon his lips this first root-word; how is he to make it intelligible to his comrades? Until it is made intelligible, it cannot fairly be called language; and to make an abstract name intelligible without the assistance of other words is, if not impossible, a feat requiring greater ingenuity than most civilised men possess. Here is the problem: on one side is a human being able to articulate one monosyllable signifying an abstract idea, and able also to gesticulate; on the other side, a human being or beings, also able to gesticulate, but without the power of uttering a single articulate significant sound. How is the meaning of the word

+ Lectures, 3d edition, p. 382.

† Ibid.

§ Ibid.

to be communicated? I must confess I have tried to find a way out of the difficulty, and have failed. Suppose, for instance, the first speaker wishes to convey that the attribute of light* or brightness is to be conveyed by the word *luc*. He points perhaps to the sun, and says "*luc*". But what interpretation could the hearer place upon the gesture and the utterance, except that the object pointed out is to be called *luc*? How are the roundness and the heat of the sun to be eliminated from the meaning of the word, while the light only is left behind? Obviously only by a repetition of the word and gesture when other shining objects are in view. But in this case, the particular would have been first named, and the meaning of the name would have been transferred to the general and the abstract. In this particular instance there is a curious difficulty; for, while we must suppose that *luc* meant originally *light*† in the abstract, we are told that *luc*-s (*lux*), the Latin word which expresses that meaning, is equivalent to "*shining there*", *s* being a pronominal suffix. But if there is such a thing as an abstract and general name, *lux* must certainly come under that definition. It means not *shining there* in particular, but shining wherever you please—here, there, and everywhere—it means the attribute of light, not of any particular kind, but of all kinds. We are therefore left to suppose that, although *luc* originally meant light in the abstract, it became necessary in Latin to add something to it, in order to express the idea of light, and that something a pronoun which would have the effect of limiting and particularising the meaning. If so, surely *luc* must have been of more abstract and more general signification than light, though including that idea, and the first founders of language must have had minds of a most scientific character: it would hardly be unreasonable to conclude that they had arrived at the idea of the correlation of forces. But such are the difficulties and contradictions which beset the theory of the abstract signification of roots.

In short, it is impossible to name intelligibly to others what it is impossible to indicate to others; and it is impossible to indicate an abstract idea without previously existing language. That abstract ideas could have first received a name is, then, impossible; and we are therefore justified in concluding that the concrete was the *primum appellatum*. On this subject, Adam Smith makes some excellent remarks. Professor Max Müller has quoted from him, and professed to give his theory in his own words; but has not quoted or answered the following passage. "As neither quality nor relation can exist in abstract, it is natural to suppose that the words which denote them, considered in concrete the way in which we always see them subsist, would be of much earlier invention than those which express them considered in abstract, the way in which we never see them subsist. The words *green* and *blue* would, in all probability, be sooner invented than the words *greenness* and *blueness*; the words *above* and *below* than the words *superiority* and *inferiority*. To invent words of the

* Lectures, p. 274.

† Professor Max Müller says "to shine". But he does not of course mean the infinitive mood of the verb shine.

latter kind requires a much greater effort of abstraction than to invent those of the former. It is probable, therefore, that such abstract terms would be of much later institution. Accordingly, their etymologists generally show that they are so, they being generally derived from others that are concrete."^{*}

But, inasmuch as concrete names may be general names in the true sense of the term "general", it may be worth while to examine whether roots could have been general names of this kind—whether an indefinite number of objects could have received a common name before that name had been given to one particular object. This is the more necessary, inasmuch as it is possible that Professor Müller may have included names of this kind in his idea of the class "general". His own language seems to exclude this meaning; but the words of Leibniz, which he adopts, certainly include it, and it alone. "We may, therefore," he says,[†] quoting from Leibniz, "assert that the names of individual things were names of species, which were given, *par excellence* or otherwise, to some individual."

But the second question which this unfortunate confusion of terms has raised, surely answers itself. How could one human being, possessing a language of one word, inform another human being, altogether ignorant of language, that he desired by his one word to signify not one particular object, which he might point out, but an indefinite number of objects, some of which he could point out only on a future occasion, and others not at all? If one object is pointed out, the word must be taken to signify that one object; if several are pointed out at once, as, for instance, a flock of birds, or a pile of stones, it remains uncertain whether the word is applied to the total flock or pile, or to each of the individual objects making up that total, or to the act of flying, or to the shape of the pile. A word could have obtained a definite signification only by being applied first to a single definite object. The names of the species and of the attributes would grow up naturally out of this original word.

In no sense, then, could the first thing named have been a general idea. It must have been concrete and particular. And all the facts of the case really bear out this proposition; though they also bear out a proposition somewhat like that of Professor Max Müller in expression, but essentially different from it in fact. Though it is impossible that attributes could have been named first, it is certain that all things must have been first named from the possession of attributes. To say this, is to say no more than that things received different names because they differed—a truism which no one will be inclined to dispute. But it does not even follow that things were named from the possession of a single attribute. They may have been named, and probably were named, from the possession of many attributes, which made them what they were.

But, it may be said, Professor Max Müller has brought forward the strongest evidence to show that all root-words expressed general ideas. My answer to this is, that the evidence which he has adduced

* Theory of Moral Sentiments, Basel, 1793, vol. ii, p. 280.

† Lectures, p. 380.

is all on the other side. For, let it be granted that there once was an Aryan language, all the words of which were monosyllabic, what proof have we that these were the original roots of an original language? All that Professor Müller can tell us of them is, that modified, in one way they express the general, in another the particular; in one way the concrete, in another the abstract. He does not pretend to say that Aryan was the original language, or that others may not have preceded it. To maintain that Aryan affords any evidence of the original meaning of root-words is, if we are to accept Professor Müller's etymologies, to maintain that men learned to measure before they gave a name to the moon, studied the phenomena of reproduction before they gave a name to the sun, learned to plough before they named the earth they stood upon, and ascertained that "dust they were, and unto dust they must return", before they named their own species!*

In addition to this, it is asserted† that the Aryans had attained a civilisation as great as that of the Germans described by Tacitus. If so, it certainly cannot be among such a people that we are to look for the first origin of language.

But the best example of a radical language—of a language in which roots are words—is, according to Professor Max Müller, the Chinese. And in Chinese we find, even by his own showing, that the same word expresses both the abstract and the concrete, and that "the number of imitative sounds is very considerable."‡ In other words, the most primitive form of language is that which offers the strongest evidence against the theory that general ideas formed the basis of all language. The same word, "jin", means "man", "woman", and "humanity". What evidence this fact offers that humanity in the abstract was named before any particular man, it is difficult to discover. "The history of every substantive," says Professor Max Müller,§ "might be cited in support of the view that the particular was first named." To admit this, and to assert at the same time that the general was the first named, is to invert the ordinary process of induction. It would be equally reasonable to argue that, although water has now a tendency to run down hill, it had formerly a tendency to run up hill; that, though the three angles of every triangle are now equal to two right angles, they were formerly equal to less or more; that, though fire now produces the sensation of heat, it formerly produced the sensation of cold.

If the language which is in the most primitive condition affords most instances of onomatopœia, we may surely conclude that onomatopœia had a considerable share in the formation of language. The fact, if fact it be, that the imitative sounds with which we are acquainted have not been fertile in derivatives, does not prove that imitative sounds never had any derivatives. It is quite possible that the imitative sounds originally in use may have become so modified in sound and meaning as to be no longer recognised as imitative, and to be much better adapted for new variations of meaning than those

* Lectures, p. 387. † Ibid., p. 239. ‡ Ibid., p. 373, note. § Ibid., p. 381.

imitative sounds which have come into use more recently.* But the statement that no imitative sound or ejaculation has had a large family of derivatives is refuted, in one instance at least, by the root *ma*. This sound is one of the earliest uttered by the infant; and a sound very like it is uttered by more than one of the brutes. In the earliest human life it is the sound of the child crying for the breast. The stimulus of appetite acting upon the vocal organs seems to call forth this sound before, or at least more frequently, than any others. That it has a definite meaning will hardly be maintained. The irritation of nerves consequent upon inanition seeks relief in an articulate sound; but, in the minds of the parents, the sound becomes connected with the idea of the breast. Perhaps the reduplication of the sound *ma-ma* conveys the idea of the two breasts. And the transition of meaning from the two breasts to the mother is not difficult. From this root *ma*, we may trace the various Aryan names for *mother*—the Sanskrit *mātri*, the Greek *μήτηρ*, the German *mutter*, and all their derivatives. It is not unreasonable to suppose that *ma-tu-rus* may have come from the same source, meaning originally “of an age to become a mother.”† There is every probability that the Greek and Latin words for apple, *μήλον* and *malum*, had the same origin; for in Greek, at least, the word is used metaphorically to express the breast. *Μηλοῦχος* is a girdle that confines the breasts. “*Μήνη*, the moon,” says Professor Max Müller, “means the measurer.” Does it not rather mean the mother—the mate of the sun, whom Professor Müller asserts to be the begetter? The Sanskrit *mā*, to measure, may have been derived from the root *ma*, signifying originally mother, and metaphorically the moon. The Latin *mano*, to flow, comes probably from the same root: source and mother are words that may be used metaphorically for each other. Here are a number of words, each of widely different signification, each having a number of derivatives, and each having as good evidence of descent from the common root *ma* as any of the words cited by Professor Max Müller can give of their genealogy. There is as good evidence that the adjective *malic* is derived from the root *ma*, as that earth is derived from the root *ar*; and surely the modification of meaning is as remarkable. The name of an acid in modern chemical science owes its origin to the first cry uttered by an infant unnumbered ages ago. It is not improbable that many more roots might be traced to ejaculations, or cries resulting from emotion, and perhaps even in the cries of the brutes.

The object of Professor Max Müller's line of argument is apparently to prove that there is a fundamental distinction of kind between the intellect of man and the intellect of brute. That the dignity of man must be asserted at any cost seems to be the doctrine of many philosophers. Be it so; but is the dignity of man really asserted by a misstatement of the facts? Surely we, as men, can afford to give the brutes their due; the superiority of man will bear the light

* “But words of this kind are like artificial flowers, without a root. They are sterile, and are unfit to express anything beyond the one object which they imitate.” (*Lectures*, p. 368.)

† See Horace, *Odes*, iii, vi, 21; and Virgil, *Æneid*, vii, 53.

of day, and needs not to be puffed like the spurious wares of a dishonest tradesman. The largest concessions to the brutes cannot transform a gorilla into a Shakspeare or a Müller; and we may afford to inquire calmly how near to us the brutes approach without fear that the inquiry will bring them any closer.

"The having of general ideas is that which puts a perfect distinction betwixt man and brute. No animal thinks, and no animal speaks, except man. Language and thought are inseparable. Words without thoughts are dead sounds. Thoughts without words are nothing. To think is to speak low; to speak is to think aloud. The word is the thought incarnate." So says Professor Max Müller;* but this rhapsody amounts to no more than a statement without explanation of the dilemma of Rousseau: "*si les hommes ont eu besoin de la parole pour apprendre à penser, ils ont eu bien plus besoin encore de savoir penser pour trouver l'art de la parole.*"†

This dilemma of Rousseau's has been translated into German by Wilhelm von Humboldt, and quoted again and again as a fine saying. "*Der Mensch ist nur Mensch durch Sprache; um aber die Sprache zu erfinden müsste er schon Mensch seyn.*" Professor Max Müller gives it us both in German and in English; but two propositions which contradict each other cannot prove the origin of language from any source whatever.

"To think is to speak low," says Professor Max Müller, and in that one sentence lies wrapt up the fallacy which makes the brute intellect distinct in kind from that of man. It is assumed that language is the same as articulation, or at least that articulation is necessary to language. If this be so, and if language be necessary to thought, no deaf and dumb person can think—a proposition which will certainly not be maintained. That articulate language facilitates thought more than some other kinds of language no one will dispute. But it does so because it serves as a mental shorthand, just as algebra shortens the process which might, perhaps, if there were sufficient time, be performed, though with infinite labour, by ordinary language itself.

It is possibly true that we cannot think without symbols, for the recollection of a thing may stand as the symbol of the thing itself. But all symbols are not language, though all language may consist of symbols. We may invent a symbol for our own use, which we do not intend to make, and which we may be unable to make a means of communication with others. It is probable that brutes think by means of such symbols. For instance, the mental picture of a single cat, dog, man, etc., may serve as a symbol of the whole species. Certainly I succeeded in impressing upon a dog the meaning of the general name cat, which would, I think, have been impossible, had he not possessed some power of this kind. The word became, in his case, I conclude, as in my own, a symbol of the symbol in his mind,

* Lectures, pp. 390-1.

† Discours sur l'origine de l'inégalité parmi les hommes: Panthéon Littéraire. Œuvres de J. J. Rousseau, vol. i, p. 545.

which though itself a cat of some definite size and colour, represented cats of all sizes and all colours.

And symbols may pass through several distinct stages.

1. They may be used by an animal for his own convenience only, in which sense they may be called instruments of thought.

2. They may be used for the purpose of communication (but not in the form of articulate speech), as in communicating ideas of food, danger, game, etc. Both brutes and men use this kind of language. The cawing of the crow, the whistle of the thief, the look of the lover, may all be classed under this head.

3. They may be used in the form of articulate speech and written language.

4. They may take the form of algebraical symbols, and so there may be an algebra of algebra, symbols of symbols, *ad infinitum*.

Can it then be said, that articulate language is necessary to thought with any more justice than that algebra is necessary to thought? Is it not rather the fact that the symbols of language are a convenient help to thought, but only in so far as they are symbols. They are artificial symbols of natural mental symbols. By the latter we are able to think, by the former we are able to communicate our thoughts, and to store up past experience. By language we economise the processes of thought, just as by algebra we economise the use of language.

The general name, then, is but a symbol of a symbol. An individual is mentally made the representative of a class, and stands as a symbol for that class. The general name is a name or a symbol of that symbol. And in the attempt to conceive the meaning of an abstract name, a particular object possessing the attribute named is summoned up as a symbol. Use language how you will, you cannot realise the meaning to yourself without the aid of these mental symbols. It may not always be necessary to translate the symbols of language into the symbols of mind, but, where language has a meaning, it is always possible.

If, then, the having of general ideas mean no more than the faculty of making a particular object serve in the mind as the representative of a class, I am quite at a loss to understand how Professor Max Müller, or his authority, Locke, has discovered that the brutes are without general ideas. That men possess general ideas in any other sense cannot, I believe, be proved; that brutes possess them in this sense we have all the evidence that can be obtained from their actions. Any one who doubts this must have been unobservant of the habits of brutes—must have argued somewhat in this way: "brutes cannot have general ideas, because I should not like to believe that they have; therefore they have not; therefore there is a fundamental distinction of kind between the intellect of man and brute."

In confirmation of my view, I quote from Jesse's *Gleanings in Natural History** an instance which Mr. Jesse declares to have come under his own personal observation. "I was one day feeding," he

* Sixth edition, p. 11.

says, "the poor elephant (who was so barbarously put to death at Exeter Change) with potatoes, which he took out of my hand. One of them, a round one, fell on the floor, just out of the reach of his proboscis. He leaned against his wooden bar, put out his trunk, and could just touch the potato, but could not pick it up. After several ineffectual efforts, he at last *blew* the potato against the opposite wall with sufficient force to make it rebound, and he then, without difficulty, secured it."

Now, had a philosopher done this, we should have been told that he had the abstract (or as Professor Max Müller would say, the general) idea of elasticity. The simple fact is, that both the philosopher and the elephant can recollect past facts, and apply them to present emergencies. Call it what you will—a general idea, an abstract idea, an evidence of the law of similarity,* an act of reason, or by any other grandiloquent name, the fact is still the same. The elephant did all the philosopher could have done under those particular circumstances; he hit upon a plan for getting the potato, and got it. When Newton applied the motion of the apple to the planets, he performed precisely the same kind of mental operation.

Mr. Jesse gives innumerable cases equally illustrative of brute powers. Many of the stories which he tells may appear incredible; but of those which he tells as coming under his own observation there can surely be no doubt. The others may be true or false, but they are certainly not incredible to any one who has studied the habits of even one or two brutes for a few years; they are incredible only to those *a priori* reasoners who think nothing can be true which is opposed to their particular views.

But suppose we reject all the cases in Mr. Jesse's book, and confine ourselves only to those which Professor Max Müller admits. "When a whale is struck," he says,† "the whole shoal, though widely dispersed, are instantly made aware of the presence of an enemy." What is communicated in this case but a "general" idea—the idea of danger? If the idea of danger is not what the Professor calls a "general idea," his terms are utterly devoid of meaning. He also gives another case still more to the purpose. "A parrot," he says,‡ "will take up a nut, and throw it down again without attempting to crack it. He has found that it is light; this he could discover only by comparing the weight of the good nuts with that of the bad; and he has found that it has no kernel; this he could discover only by what philosophers would dignify with the grand title of syllogism, namely, 'all light nuts are hollow; this is a light nut, therefore this nut is hollow.'"

Now, on what ground does Professor Max Müller imply that a man, under similar circumstances, has the abstract idea of hollowness, and that the parrot has it not? That he does imply this there can be no doubt, when he says that man only has that "faculty of abstraction which is better known to us by the homely name of reason."§ I have failed to discover any attempt to bring evidence

* See Brain, the Senses, and the Intellect, p. 512.

† P. 361.

‡ P. 358.

§ Lectures, p. 363.

that a man would discover the hollowness of the nut by that "faculty of abstraction which is better known to us by the homely name of reason," while the parrot would discover it by the different process which "philosophers would dignify with the grand title of syllogism." And I have failed, moreover, to discover that there is any difference in the two processes. All deductive reasoning may be exhibited in the form of the syllogism, but Mr. Mill has clearly shown that all inference is really from particulars to particulars. The process by which the hollowness of the nut is arrived at is of this kind: "This particular nut produces a sensation similar to the sensation produced by a certain other nut or nuts which were hollow; therefore this nut is hollow;" or to adopt the formula of Mr. Mill: "This nut has a mark (lightness) which is a mark of hollowness." Professor Max Müller has, perhaps, another name for this process, but it is generally known by the name of reasoning, and it is the process by which every proposition in Euclid is proved. Until the new name is made known and generally adopted, we are justified in concluding that parrots reason, and if we are to accept the statement that reason and the faculty of abstraction are one and the same, we may declare further that parrots have the faculty of abstraction. It appears to me, then, that by this one sentence Professor Max Müller has destroyed his own case and established mine.

It happens, strangely enough, that Rousseau, in discussing this question, took one of his illustrations from nuts. "Pense-t-on," says he,* of the monkey, who passes from one nut to another, "pense-t-on qu'il ait l'idée générale de cette sorte de fruit, et qu'il compare son archetype à ces deux individus?" The answer to this question is surely easy enough. There is no evidence whatever that the monkey has the capacity of realising to himself Platonic archetypes in a less or greater degree than man. The probability is that he knows a nut when he sees it, just as much as we do; at all events, all his actions seem to prove that to be the fact. If we say simply that the law of similarity seems to apply to brutes as well as to mankind, we say all that the facts will justify us in saying.

"There is," says Professor Max Müller,† "a petrified philosophy in language, and if we examine the most ancient word for name we find it is *nāman* in Sanskrit, *nomen* in Latin, *namo* in Gothic. This *nāman* stands for *gnāman*, which is preserved in the Latin cognomen. The *g* is dropped, as in *natus*, son, for *gnatus*. *Nāman*, therefore, and name are derived from the root *gnā*, to know, and meant originally that by which we know a thing." He goes on to argue that brutes neither know nor name anything, and that it is an abuse of language to say that they do. In curious contrast to this view are the words which Milton places in the mouth of the Almighty.‡

"Knowest thou not

Their language and their ways? They also *know*

And reason not contemptibly."

A poet's testimony may, perhaps, be thought of little weight in a

* Discours sur l'origine de l'inégalité parmi les hommes.

+ Lectures, p. 384.

‡ Paradise Lost, b. viii, 372.

question of science, but it is, after all, the poet's imagination which enables the philosopher to discover laws of nature. These words, full of life and nature, are worth far more than the "petrified philosophy" of a questionable etymology.

But let it not be supposed that by any of my remarks I wish at all to detract from the very great abilities of the expounder of the science of language. No one can admire more than myself his philological ingenuity. It is only when he deals with subjects that are less familiar to him, and in which he is probably influenced by the prejudices of a particular German school and of a particular Oxford school, that, as it seems to me, he falls into the pit of self-contradictory dogmatism.

My object has been to show, and to show from the evidence of an adversary, on what footing we may expect the science of psychology to stand; to show that the impassable gulf supposed to yawn between the minds of brute and man is a fable as unfounded as those which stay-at-home travellers tell of unknown lands. When this point is once established, the place which psychology will take in the science of man is easily assigned. Comparative psychology must travel on side by side with comparative anatomy; and each in turn must lend a helping hand to the other. They must necessarily carry with them a whole train of subordinate sciences, one of which is the science of language; but without comparative psychology and comparative anatomy, a science of man is impossible. To neglect those sciences which illustrate man's corporeal nature would be as wise as to study anatomy in the soft tissues, and to ignore the skeleton, to examine the nerves of sensation, and neglect the nerves of motion, or as to study geology simply in the different *strata*, and to ignore the fossils they contain. To neglect those sciences which illustrate man's mental nature would be as wise as to study anatomy in the skeleton and ignore the soft tissues, to examine the nerves of motion and neglect the nerves of sensation, or as to study geology in the fossils and ignore the *strata*. In short, as the highest type of man is the cosmopolite, so the science which is to deal with man in general must be cosmopolitan.

The PRESIDENT observed, that the paper was written in the most liberal spirit, and he was sure they must all have been much interested in listening to it. The author of the paper had told them that comparative psychology showed that man is mentally above the lower animals, and how much, and that in all mental phenomena there is no difference in kind, but that the difference consists altogether in degree. The illustrations brought forward to confirm that view were very numerous and interesting. Man's spiritual pride had hitherto prevented him from recognising that law, if such it might be called,—for the generality of mankind were afraid to look simple facts in the face. The society were, therefore, much indebted to Mr. Pike for the clear statement he had made of his views on this interesting subject, on which there had been a large amount of foolish talk in scientific societies and in the universities.

Mr. BOUVERIE PUSEY observed, that the views of the author of the paper were in accordance with the oldest known conceptions of brute intelligence. In every collection of old tales, it would be found that brutes were made to talk, and were supposed to be influenced by similar motives as men. The same view was supported by the Hindoos and the Egyptians; and the doctrine of metempsychosis was founded on the supposed intelligence of brutes: the opposite opinion was a modern conception.

Mr. REYNOLDS considered that the illustrations adduced of the exercise of reasoning power by animals were indecisive. With respect to the illustration of the elephant and the potatoe, he thought the occurrence might have been altogether accidental. Animals were often seen to blow; and the elephant, irritated at not being able to reach the potato, might have blown through its proboscis without anticipating the effect. The illustration of the parrot and the light nut was also very doubtful evidence of reasoning power. The bird might have found out that the nut was a bad one by its feeling light, and that the nut was not, in fact, a nut, though looking like one.

Mr. ST. CLAIR objected to the paper, that it was rather a refutation of the opinions of Professor Max Müller than an exposition of the subject in general. The science of comparative psychology should be established by independent facts and reasoning. It was not known, he said, that brutes have not abstract ideas, and that they do not form rational conceptions. After alluding to the affirmation of Locke of the same views as Professor Max Müller with respect to abstract ideas distinguishing man from brutes, and of Archbishop Whately on another distinction, Mr. St. Clair proceeded to say, that in an old sermon of Wesley's he showed that brutes are not altogether without reason; and the distinction he drew between man and beasts was, that man is capable of being religious, and that brutes are not. This was strictly true in a philosophical point of view. As to the illustration of the derivation of the word "mama," from the fact that the mother has two breasts, it would not bear examination. If the two breasts of the mother caused the repetition of the sound "ma," and so formed the word "ma-ma," the same cause could not apply to the formation of the word "pa-pa," which infants utter as readily as the former, though the breasts in the father are not conspicuous.

The Duke of ROUSSILLON suggested some considerations which he thought favoured the opinions of the author of the paper. He said he had been for a long time engaged in examining the opinions of various writers respecting the origin of a race of men whom he believed to be the most ancient of mankind. That race was called the Scythians, but the meaning of the word was lost. Fifteen hundred years before Ninus, the Scythians were in possession of Asia. There was no certainty respecting the time when that king reigned; but it appeared from all authorities on the subject, that it could not have been later than twelve hundred years before Christ. Some writers represented it to have been eighteen hundred years; but taking it to have been fifteen hundred for round numbers, it was evident that the Scythians were an organised society three thousand years before Christ, as at that time they were enabled to rule over Asia Minor. It was, there-

fore, nearly certain that there was a population in existence at that early period, who possessed laws, arms, organisation, and all the necessary appliances to enable them to fight and conquer. When they thus had before them a race who existed in a civilised condition four thousand eight hundred years before our time, it became a matter of great interest to ascertain what were the characteristics of that race. Certain authors were of opinion that they were the Mongolian race, and there is at the present time an author who says they were of the Caucasian race. He had carefully examined the evidence on this subject, and he intended shortly to publish his opinions, and the results of his investigations respecting it. He would now merely state that the Scythians had light hair, fair eyes, and a fair skin, and that from them were descended the Scandinavians, the Germans, the Sclavonians, and many other nations.

Mr. REDDIE said he should be sorry if the Anthropological Society of London came to the conclusion that there is no great difference between men and beasts. In anatomical construction, indeed, there was some resemblance; but if there was a distinction at all between man and the lower animals, it was chiefly in his possession of an exclusive kind of intelligence. He was not prepared to assert a distinction between man and beasts in all respects, but he did not agree in the opinion that the difference in their mental capacities is only a difference in degree. No reasoning power, properly so called, was evinced by animals. The instance of the sagacity of the elephant which had been adduced was no proof of reasoning power. It was probably only an accidental occurrence. Many better instances of the intelligence of animals might be adduced than that; but they were all of that kind of sagacity which is instinctive as distinguished from rational. It might rather be said that man has the faculty of instinct than that brutes have the faculty of reason, and there could be no doubt that many of our acts are instinctive. Thus, for example, when a stone is thrown at your head, you draw aside to avoid it from instinct, without reflection; and an animal possesses the same instinctive power of getting out of danger. The resemblance between animals and man is not in their having reason, but in man having also instincts. With regard to the origin of language, the illustration of the formation of the word "ma-ma" was not borne out by facts, for more generally the sound "da-da" is the first word that is uttered by an infant. If the development of the breast of the mother had any relation to the number of times the infant said "ma", she would have as many teats as a cow! As to the parrot and the dropped hollow nut, he did not think that illustration afforded any proof of reasoning power. He had seen a parrot crack hollow nuts, and he considered the instance when a parrot refused to do so, to be accidental, or an instinctive action only. He did not perceive any indication of the conception of abstract ideas in the sagacity of animals, or any approach to the power of speech; and, with respect to the antiquity of the notion that animals could talk, it could not surely be gravely intended that a literal interpretation should be given to the fables about talking animals, and to the words put into their mouths! As to the doctrine of metempsychosis, which had also been alluded to by the same speaker, it should be borne in mind that all those who

believed in the transmigration of souls believed also in the grand distinction between men and animals which reason and language create.

Mr. BLAKE adduced an instance of the communication of intelligence between a pilot-fish and a shark of which he was a witness, in about the latitude of Buenos Ayres, many years ago. A shark was observed alongside the ship and attempts were made to catch it. They got a piece of beef and fastened it to a hook, and as soon as it was thrown overboard the pilot-fish came and smelt at the bait. It then went back towards the shark, which continued at the beam of the vessel, and made some communication to it, the result of which was that the shark did not move. This was done several times with the same effect. They then baited the hook with a piece of pork, and the pilot-fish having examined it made its report to the shark, at a distance of more than thirty feet, when instantly the latter came to the stern of the vessel, made a snatch at the pork, which it swallowed, and then swam away with the meat and hook too. This was a fact witnessed by himself, and he should like to know what means of communication subsisted between the two fishes, so that they could thus understand each other.

Mr. C. CARTER BLAKE said the paper was so suggestive and was conceived in so liberal a spirit, that he only objected to some slight details. Mr. Pike had pointed out the difficulty of transmuting a gorilla into a Shakespeare or a Müller; but it was a difficulty of his own creation, for no one ever conceived of such a transmutation. The transmutationist only contended for the probable transmutation of the higher class of anthropoid apes, into the lowest class of human beings. As to the question whether language was inseparable from thought, it might be observed that some inferior races of man had a very low grade of language, and uttered sounds that did not convey distinct conventional ideas. He alluded, in support of that opinion, to the Veddahs, and to the observations of Sir Emerson Tennent to the same effect. In what respect, then, except in degree, did such a language differ from the communication of ideas among animals—such, for instance, as was recognised by the bark of a dog, or the mewing of a cat? For his own part he could not distinguish the difference. The communication of ideas by peculiar sounds was especially observable in animals brought under the control of man. It had been stated by Broca, that man might be deprived of the faculty of speech by taking away the second plait of the frontal convolution of the brain; and though, of course, we reject the hypothesis of phrenology in its strict application, there could be no doubt that the faculty of speech has some definite relation to nerve substance. The assertion that the distinction between man and brutes consists in his being a religious animal would not bear examination, for there are many tribes of savage men who have no idea of a God or of a future state; he therefore objected to that definition of man. He wished strongly to express the belief that the distinctions between man and brutes do not depend on moral or psychological forms of classification, but that it must depend on anatomical observation of some positive fact. He had no sympathy with those who, admitting man's physical sameness with the inferior animals, wish to give to man an immaterial substance

different from that which animals possess, yet do not show in what that difference consists.

Mr. WALLACE observed, in reference to the distinction drawn by Mr. Reddie between reason and instinct, that what is called instinct is generally the result of experience which forms a habit that is in time called instinctive. Alluding to the illustration of sagacity in a parrot in detecting a bad nut, he said that he knew a still better instance of apparent intelligence in a parroquet which he had. The bird was very fond of sugar, but could only take it when moistened, and when a dry lump of sugar was given to it, the bird dipped the sugar into water before attempting to eat it.

Mr. PIKE, in replying to the observations that had been made on his paper, said it was satisfactory to find that almost every one of the speakers had agreed to his main proposition. Mr. Reynolds had objected to the illustration of the elephant and the potato, that it was a mere assumption that the elephant reasoned on the effect of his blowing, and suggested that the rebound of the potato from the wall was merely an accident. But if so, it was a remarkable chance that the force of the elephant's breath should drive the potato against a particular point of the wall so that it should come back for him to catch it. Allowing, however, that to have been accidental, there were numerous other instances of sagacity in elephants which had given them the character of being reasoning animals. As to the parrot and the hollow nut, whatever might have been the means of indication still it was an act of reason so long as the bird did not crack the nut. Mr. St. Clair had objected to the paper on the ground that it was principally occupied with a refutation of the opinions of Professor Max Müller; but he (Mr. Pike) had selected that gentleman as the foremost of the class of reasoners who supported certain views. With respect to the instances of derivatives from the root "ma," the objections that had been raised to the derivation from it of the word "mama" did not refer to a fundamental point of the argument, for he suggested the connection of the repetition of the sound and the two breasts of the mother, merely as a conjecture. Mr. Reddie had accused him of saying there is no distinction between man and brutes; but what he said was directly contrary. He had stated "there is no fear that comparative psychology will fail to exhibit the immense superiority of man to the brutes." Mr. Reddie further asserted that no true instance had been adduced of reasoning power in brutes, and that they acted only from instinct. This objection seemed to resolve itself into a question of definition of terms. But it appeared to him that if an act performed by man was considered an act of reason, a similar act by a brute must also be so considered. In all such cases of what is called instinct, the fact is, that they are the results of experience applied by the faculty of reason. With respect to the observations of Mr. Carter Blake on what he had said about the transformation of a gorilla into a Shakespeare or a Müller, there was a little misapprehension. He was merely answering the opinions of other people, for nothing could be further from his own opinion than such a transmutation. The question of a common origin it was not necessary to enter into.

Notes on the Capabilities of the Negro for Civilisation. By HENRY
F. J. GUPPY, F.A.S.L.

It is with much diffidence that I bring before the Anthropological Society a few observations on the apparent capabilities of the negro race for civilisation, so far, that is to say, as my own limited experience extends. I say *apparent*, because in Trinidad and other West India colonies, it has been contended that the negroes have been brutalised and reduced below their true standard, by slavery. However true this may have been at the time of emancipation, a sufficient number of years has now elapsed for a new generation, free from any oppressing influences, to show forth the natural powers of the negro mind. That slavery does not necessarily degrade the negro, however much other races might be affected thereby, has been proved by the observations of several persons, for we find in Dr. Waitz's valuable volume, so ably translated by Mr. Collingwood (p. 72), that it is stated in many cases, despite of slavery, his contact with the superior race in the Slave States of North America has considerably softened down his more animal characteristics, and rendered even his countenance more like that of a thinking being. And to counterbalance any deterioration that may have been produced by slavery, the descendants of the slaves have had the means of improvement and of civilisation brought to their very doors, and their adoption enforced by the most improved methods of education known to the highest civilised race. The possible effect of slavery on the physical and mental organisation of the negro has, to say the least, been grossly exaggerated. It confessedly requires several generations at least to effect any great or permanent change in this respect, and as regards the slaves in these colonies, a large proportion, if not the majority of them, at the emancipation were either native Africans, or the immediate descendants of such. And may it be asked, what example can be adduced of the slavery, however brutal, of one or two generations of a race producing such an effect, that the children, on having the means of improvement placed before them, have been found so far below their progenitors as to be unable to make an equal, or nearly equal, use of them? My own observations, slight as they are, fully bear out the remarks made on the subject by our respected president at the meeting of the British Association at Newcastle.* Leaving out, as he proposes, the mixed race, there are, within my experience, but very few examples of the pure black holding places of trust and confidence; such of them as do so, certainly have their features much more nearly approaching to those of Europeans than one would have imagined possible, that is to say, when compared with the general bulk of the negroes; so much so, indeed, is this the case in some instances, as almost to lead one to doubt the purity of their descent. It has been remarked, that when equally coloured individuals intermarry, their offspring become darker and darker; it might be worth while, perhaps, to ascertain how far the influence of the lighter and (let us

* Vide Anthropological Review for November 1863, p. 386.

assume) the superior race would extend. Would it continue to affect the features and form when the complexion had returned to the dark tint of the inferior race? And if so, would the mental powers in any measure correspond? These are interesting questions that it would be, no doubt, premature to answer. But if an affirmative could be given, we might, perhaps, explain, at least in some cases, the apparent anomaly of a completely black individual possessing bodily and mental characteristics exceeding much the standard of his race. As to the rebellious propensities of the negroes, it may be remarked, that when an outbreak does occur amongst them, as at St. Vincent a short while since, the object is generally one of lust or ease, and not one caused by ambitious and domineering ideas; we have seen this exemplified in Hayti, where the *extermination* of the numerically inferior race was determined on by the blacks, and not their subjugation, for that, indeed, was impracticable.

That it is far from being always the case that when the negro has opportunities of improvement he will use them, we have, unfortunately, too many instances in this island alone to prove. For example, there were some negroes conveyed hither after the American war of independence, in which they had fought on the side of the British, and who were allotted pieces of land, some ten or twelve miles from S. Fernando, the second town of the island. Their descendants, far from being improved, notwithstanding the advantages of having schools in their midst, and the constant efforts of clergymen and others to induce them to become more civilised, have decidedly retrograded. The original settlers, of whom a few are still alive, are found to be civil and well-ordered, whereas their children are wild and almost ferocious savages, extremely inhospitable, and jealous of the designs of visitors. The negroes generally have a tendency to withdraw themselves from the neighbourhood of their fellow colonists, and to bury themselves in the valleys and woods, there to live a merely animal life, cultivating, perhaps, a small patch of land, no more than is barely sufficient to supply themselves with scanty clothing, and, perhaps, to purchase a few such luxuries as tobacco or rum. This conduct is probably to be attributed to their natural and uneradicated desire for ease, and dislike for labour of any kind, having liberty to express itself by their possession of land, the cultivation of a very small portion of which being sufficient for a savage existence. Their distance, too, though small it be, from the pressure and presence of a more energetic people, no doubt contributes to this effect. This dislike of steady work and want of thrift has rendered the bulk of the negroes utterly unfit for labourers, and has necessitated the introduction, into some of these colonies, of Coolies from India and China. If the cultivation of these islands had, indeed, depended upon the exertions of the liberated slaves and their offspring, we should, long ere this, have sunk to such a low ebb, that our present condition is wealth comparatively, to what it would have been, though we are still struggling under many difficulties.

The negro, in effect, requires constant stimulation, and the hard

teaching of necessity to force him to activity. He has no ambition of rising either in intelligence or in wealth. When left to himself but for a short time, he falls back rapidly into a mere listless condition, in which he cares not for the outer world, or, indeed, for anything out of his own personal existence. As for knowledge, the progress of his fellow-beings, the improvements made in arts or sciences, all these are blanks to him; he seemingly comprehends not their import; and though their importance may be impressed on his mind for a while, he soon forgets all that he has heard, and quickly relapses into his former apathy. How different from this are the Chinese and Hindoos, with whom we are able, in some measure, to compare him, in this and other colonies, where the immigration of these races has been carried on for some years. With far less opportunities, both the Chinese and the Indian coolies, more especially, perhaps, the former, have already turned their advantages to some account. They trade, they speculate, and endeavour in other modes to emulate the wealth and prosperity of their fellow-citizens; indeed, it is a common observation here that some of our chief merchants will some day be of Chinese descent, if not Chinese themselves. There is barely an instance of such foresight and industry to be found in the pure negro, at all events, as existing here. He has no ambition for advancement, as I said before, and this may be said to sum up his character. If we were to take an average English labourer, and place him in similar circumstances, and in such a situation that by steady application to work he would soon attain independence, I am confident that he would prove, in a short time, that such a tempting prospect was sufficient to urge him on to renewed exertions.

In the discussion that ensued on the reading of Dr. Hunt's paper, Mr. Craft observed that the agricultural labourers in England were bent (in figure) as well as the negro. It may be observed that the majority of aboriginal races who, like the negroes, dislike labour, or, at all events, the labour of tilling the soil (which is the cause of the bend in the English labourer), are finely formed, and exceedingly straight, as for instance the Indians of North America and the Maoris, both of which races are undoubtedly highly capable of improvement, and who yet themselves admit the superiority of the Caucasian race.

If Mr. Craft's observations with regard to the intellectual power and independence of character of the Haytians be correct, how is it that that fine and beautiful island has so notoriously retrograded since its independence and erection into a negro state? Statistics and observations show the wild and desolate condition it has attained from the utter neglect of its inhabitants, who, taken up with continual and petty political squabbles and the mockery of a court, have left their fertile plantations and allowed them to return to a condition only worthy of a people utterly savage, and careless of progression. An island that before its independence produced more sugar than the whole of the other West India colonies (150,000 hogsheads), within twenty years after the negroes had had full possession, produced less than the smallest isle inhabited by Europeans; in 1823, for example,

it was estimated that the exports of sugar from St. Domingo amounted to but 6 or 700 hogsheds; and the deficiency was by no means made up by other products.*

As to Professor Wilson's remarks, it is not at all true that the negroes are to be compared to the inmates of a workhouse. I speak, of course, of those in the West Indies. They (the negroes) have liberty of action unrestrained, a climate that enables them to live upon little, and a soil that would allow them to procure a competence and even wealth, by the expenditure of a certain amount of energy; education can be had by every one, if they only think it worth the attendance at school.

The negro seems unable to adopt even the inventions of the Europeans for saving labour, or do so very slowly and clumsily indeed, whereas many other primitive peoples, the Maoris, for instance, have shown themselves the very contrary to this, and employ all the contrivances for saving labour possible for them to obtain, and learn with avidity of more.

It would, however, be undoubtedly wrong to say that the negro possesses no capacity for mental improvement; for that would be placing him in a very low rank of the animal creation indeed; but it would certainly seem that his capacity must be left, in a great measure, to itself, to develop into anything worthy of the name of civilisation. He does not comprehend that of the European; it is, as it were, out of his sphere. Such civilisation as he is capable of will be *sui generis*, and utterly unlike that of the Caucasian races. We shall not, probably, have any opportunity of witnessing this negro civilisation in the western hemisphere; for observation fully bears out Sir Alexander Tulloch's remark, "that before a century has passed, the negro race will almost have disappeared from the British colonies in the West Indies." As to the American negroes, the same in effect has been said of them by Nott, De Bow and others.

These remarks are made with reference solely to the pure negro; the mixed race, as might be naturally supposed, shows a great variety of conformation, both bodily and mentally, the latter especially perceptibly improving as the individual approaches more nearly to the European race. There are many men of great intelligence, and who occupy very respectable positions here, of the mulatto and lighter coloured classes; there is one thing that may be remarked of these, that they are, as a rule, neither so robust as either the European or the negro, and are certainly more liable to chest diseases.

May I be allowed to protest against the use of the word *African* as being synonymous with *negro*. The latter has, no doubt, its faults, but it is certainly more distinctive than the former, for we know very well that the negro, strictly so called, occupies but a small district comparatively speaking, of the immense continent of which he is a native, and to which he is peculiar. It is to be remarked that the former is a name that is affected by many of the coloured people, as conveying less reproach, as they think, than the other designation.

* Vide Quarterly Review, January 1824, p. 577.

The PRESIDENT said he so fully agreed with the author of the paper that it was unnecessary for him to speak on the subject immediately after it had been read. He wished to state, however, that he had had no communication with Mr. Guppy, though from the identity of opinion between them—on the incapacity of the negro for comprehending European civilisation—it might have been so supposed. This coincidence of opinion was the more remarkable as his own observations on the incapacity of the negro for European civilisation were not contained in the paper he had read at the meeting of the British Association, and which only had been seen by Mr. Guppy, but were introduced when he afterwards read the paper in that Society.

Mr. REDDIE considered the paper of Mr. Guppy's a very appropriate sequel to the one that had been read before it. It was a clear statement of facts of the condition of emancipated negroes, devoid of speculation. They could see from that statement that there was a great deal to be done in comparing the different degrees of intelligence in man without descending to a comparison with brutes. In endeavouring to establish a comparison in the latter case there was this difficulty, that they had no facts to depend on. It could be seen and ascertained how far the negro is capable of understanding the higher grades of human intelligence, but with regard to inferior animals the difference was not one of degree but of kind.

Mr. PIKE remarked that it had been just said by Mr. Reddie that he approved of the paper because it contained a lucid statement of facts and not speculation; but at the same time he had asserted that the difference between man and brutes is one of kind and not of degree, which assertion was a speculation and not a fact.

Mr. WALLACE said the author of the paper dwelt much on a fact which no one had denied—that the negro is very inferior in intellectual capacity to the European. The only question to be determined was, how far that inferiority extends. The African negro was often spoken of as being the lowest race of mankind; but he believed that the negro is not the lowest grade. The Australians, the North and South American Indians, and even the Malays, he considered to be inferior to the negro. The negro, he believed, possesses a considerable amount of intelligence and energy that might enable him to rise much higher than he has done yet. It was not fair to compare a negro emancipated from a state of slavery with Hindoos and Chinese who belong to the oldest civilised nations on the earth. It was true, indeed, that the negro would not work and exert himself, except under the pressure of necessity; but that remark was applicable to mankind in general, for everyone required a stimulus to exertion. They had never seen the negro in that state of stimulus fitted to develop his moral and intellectual faculties and to enable him to appreciate the benefits of civilisation. When the negroes in our West Indian possessions were emancipated they ought to have been placed in circumstances that would have given them a stimulus to labour. There was no necessity to have given them the land on which they were located. If it had been an established rule that the negroes were to pay rent for the land they occupied, that would have obliged them to

labour, and we should have had a different state of things from that described by Mr. Guppy. The necessity to provide money for the payment of rent and to enable them to live would have given them a stimulus to work. The necessity of exertion to obtain a livelihood was even among ourselves an excellent means of improvement. We had never seen the negro under favourable circumstances. We had always seen him either as a slave or perfectly free without any stimulus to exertion. Allowance should be made for the contrast between his present condition of perfect freedom and his former state of slavery. We had not yet seen the negro under the circumstances that would show him to the greatest advantage.

Mr. S. E. BOUVIER PUSEY observed that the emancipated negroes of our West Indian colonies were placed under very unfavourable circumstances. When in a state of slavery they were treated by the planters with great severity and in a very different manner from the slaves in the Confederate States of America. The planters were always in debt and they forced their slaves to work hard and behaved to them with barbarity. The planters had no ideas of political economy, and when the slaves were emancipated they thought the negroes were bound to work for a fixed price. But the negroes, on being released from such harsh bondage, would not be compelled to work. They migrated, and, in some instances, they squatted, and indulged in what to them was the luxury of idleness. He agreed with Mr. Wallace in thinking that sufficient allowance had not, under such circumstances, been made for the negro, and that we should not judge of his mental capacity by his present low degree of intellectual development.

Mr. PINKERTON thought that too much had been said both on the one side and the other about the capabilities of the negro for European civilisation, and that they should look on him in the state he was found and see what he is. It was useless to speak of the negro as he might have been under different circumstances. When compared with the Hindoos and Chinese there could be no doubt the negro was very different.

Mr. C. CARTER BLAKE noticed the allusion in the paper to the observations of Mr. Craft in the discussion of Dr. Hunt's paper on the negro at the last meeting of the British Association. Mr. Craft had there stated that the agricultural labourers in England were bent in figure as well as the negro; but the fact was suppressed by him that, in the case of the English labourer, the stooping figure was not concomitant with any anatomical peculiarity. The agricultural labourer exhibits the "European type" as characteristically as any of the white races of mankind. With respect to the negro, however, it was well known that the angle of the occipital foramen is different from that of the white races, and there are other distinctions in his anatomical characters. With regard to the assertions sometimes made, that the civilisation of the negro is capable of altering his cranium from the true character of the race, what were the facts? One of the most degraded skulls of the negro type which is yet known is that of a civilised negro who was a Wesleyan deacon in the West Indian islands. Mr. Wallace had stated that

no one denies, and that no one had ever denied, the inferior mental capacity of the negro, but he could have paid little attention to what had been again and again asserted by the advocates of the negro, or he would not have said so. If they turned to the popular literature, it would be found there stated not only that the negro is equal, but that he is superior to Europeans, and it had been recommended by some persons on the other side of the Atlantic, that the European races there should be improved by mixture with the negro.

The PRESIDENT considered it to be due to the author of the paper to say a few words in support of his opinions. In the first place, he would observe that the paper showed that the volumes published by the Anthropological Society had got out to Trinidad, one of the results of which had been the production of the interesting communication which they had just heard. Mr. Guppy had told them very properly that slavery does not degrade the negro, and when they hear so much about what slavery has done to degrade them it was well that they should now have the statement of a gentleman, founded on observation of the facts of the case, that the opposite effect was produced by slavery. The children of the slaves, who have had the means of improvement and of civilisation, were, on his evidence, worse than their parents when in a state of slavery, and were said to have greatly deteriorated. The cause of this was, that the children who are free want the stimulus of necessity to work. Mr. Wallace, indeed, said that all men require that stimulus, and would do nothing without it. He (the President) did not believe that to be the case with Europeans. There were, for example, upwards of 10,000 men in this metropolis who work daily without any necessity for so doing. At the last meeting of the British Association it had been asserted by Professor Wilson that there were in the English workhouses many men whose mental capacities were not superior to those of negroes, and that if the latter had the opportunity, they would become equal to the white man. In the instance of Hayti, however, the contrary was seen; the free negroes were there either savages, or were quickly becoming so. The opinion expressed by the author of the paper that the mulattoes are not so robust as either the European or the negro, agreed with the opinions of other good authorities and with experience, for it is known that they die off fearfully. Mr. Wallace had said that the negro is not the lowest of the human races, and that there are several lower than he is. That assertion fully agreed with the statement in his (the President's) paper on the negro, in which he said there were six races lower. If they looked to the facts of the case, as recommended by Mr. Pinkerton, and examined the condition of the negro in every possible condition, they found the same result—that the highest state of civilisation and mental development which the negroes exhibited was when they were in a state of slavery under the treatment of a kind proprietor. They were treated, as had been observed, very differently in some parts of America from the cruel manner in which they were formerly treated in the West Indies. The treatment most of the negroes received in the Confederate States was well adapted to improve them, and it had produced

that effect. At present they were dying off very quickly in America. He thanked Mr. Guppy for having contributed so valuable a paper; and he hoped that other gentlemen would send their opinions on the subject. He had been accused of being prejudiced, and of having interested motives in his representation of the incapacity of the negro for European civilisation. He begged to assure the meeting, however, that he had no prejudice on the question, but he thought it was the duty of anthropologists to oppose the opinion attempted to be established of the equality of the negro and the white man; and, as to the alleged interested motives, it was well known that the men who made such charges were generally those who were themselves most influenced by such motives.

Mr. PUSEY rose to explain that he considered himself opposed to the opinions expressed in the paper. The freed negro did not work because he was not adequately and steadily paid for his labour. With regard to the state of the negroes in Hayti, there were peculiar circumstances in that case, which prevented it from being fairly taken as an illustration.

The PRESIDENT then briefly noticed that the translation of Broca's work on Human Hybridity was now ready; and he proposed a vote of thanks to Mr. Carter Blake for the careful and prompt manner in which the work had been edited. This proposal was seconded by Mr. REDDIE, and carried unanimously.

The meeting then adjourned to the 5th of April.

APRIL 5TH, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

THE minutes of the proceedings of the last meeting were read and confirmed.

The thanks of the Society were given to the following gentlemen for donations to the library:—Professor Rudolph Wagner; M. Georges Pouchet; J. Frederick Collingwood, Esq.; T. Bendyshe, Esq.; the Royal Society of London; and the Cotteswold Club.

The following new members were announced as having been elected since the last meeting.

John Brinton, Esq.; Handel Cossham, Esq., F.G.S.; E. Bickerton Evans, Esq.; Edward C. Healey, Esq.; J. Byerley, Esq.; G. S. Gibson, Esq.; Lieutenant-Colonel H. Clerk, R.A.; W. Cory, Esq.; David Gray, Esq.; John S. Burke, Esq.; Edmund Farmer, Esq.; Antonio Brady, Esq., F.G.S.

The following papers were then read.

On the Universality of Belief in God, and in a Future State.

By the REV. F. W. FARRAR, M.A.

"Es ist ein seltsamer Irrthum, anzunehmen, dass alle Völker an das Dasein eines Gottes glauben; ich habe viele Wilde gesehen, die davon keinen Begriff hatten."

DE LAUTURE.

WHETHER or not all nations believed in a God, was a question debated even by the ancients. On the one hand, Artemidorus* and Plutarch† positively assert that there was no race without this belief; on the other hand, the Phlegyes, Nasamones, Callaici, Akrothoi,‡ and others, are expressly charged with such ignorance, and Cicero§ pointedly affirms his belief in the existence of such people.

In modern times it has generally been *assumed* that there is no doubt about the matter, and such a consensus of the whole human race has even been most needlessly inserted among the certain evidences of religion. But what are the facts? If we may believe the testimony of travellers,—*who are generally prejudiced in the opposite direction*, and who frequently implant their own belief, which is found there by subsequent voyagers—there are not only isolated tribes, but whole nations who are so degraded as to live with no knowledge of their Creator.

For instance—1. Of the *Australians*, Mr. Schmidt says, "*They have no idea of a Divine Being*," and Mr. Parkes, "That they have no words for justice or for sin;" and Dr. Laing, "They have no idea of a superior Divinity, *no object of worship, no idols, nor temples, no sacrifices*, nothing whatever in the shape of religion to distinguish them from the beasts." Similarly Perty,|| in describing the aborigines of Solomon's archipelago, says, "that in many of the islands there is no trace of any religion." 2. If we turn to *Africa*, the missionary, J. Leighton, tells us of the *Mpongwes*, that he found among them neither religion nor idolatry; and another missionary, the Rev. G. Brown, tells us of the *Kaffirs*, "That they have not in their language *any word to use as the name, or to denote the being, of a God*—of any God." According to one account, the nearest approach to it appears to be the word *Tixo*, which means "wounded knee," and was the name of a celebrated medicine-man a few generations back! The natives of Cape Mount, when questioned by Smith about their religion, said, they obeyed their chiefs, and troubled themselves about nothing higher. A Bosjesman, when asked the difference between good and wicked, said, "It was good to steal another person's wife, and wicked when one's own wife was stolen." Respecting Fetichism in general, which is the prevalent religion (?)

* Οὐδὲν ἔθνος ἀνθρώπων ἔθεον. Artemid., i, 9.

† Ἀνέρου δὲ πόλεως καὶ ἄθρον . . . οὐδεὶς ἐστὶν οὐδ' ἐστὶ γηγονὸς θεότης. Plut. Adv. Colot. Epicureum, p. 1124.

‡ See Fabricius, Bibl. Antiq., p. 229

§ "Equidem arbitror multas esse gentes sic immanitate efferas, ut apud eas nulla suspicio Deorum sit." Cic. De Nat. Deor., i, 23.

|| Grundzüge d. Ethn., § 282.

of Africa, Captain Burton* observes, that "it admits *neither God, nor angel, nor devil*; it ignores a resurrection, a *soul* or a *spirit*, a heaven or a hell." Of the Kaffirs the missionary Scultheiss† also says, that "they have no religion, never pray, know nothing of a higher Being, and believe only in the existing life." 3. Of the *Malagache*, Rochon‡ says, "The *Malagache*, like the savage, is *destitute alike of virtue and vice*; he is susceptible of no kind of foresight; and he does not conceive that there are men on the earth who give themselves uneasiness respecting futurity." 4. Of the *Esquimaux*, Whitebourne,§—whose testimony is valuable because he wrote in 1612, and before they could have learnt of God from more frequent intercourse with Europeans—says, "*They had no knowledge of a God*, and lived under no form of civil government." And even Sir J. Ross¶ observes, "That they have a moral law of some extent written in the heart I could not doubt, as numerous traits of their conduct show; but beyond this *I could satisfy myself of nothing*." 5. Of the *Mincopies* or *Andamaners*,** Dr. Mouat says, "They have no conception of a Supreme Being,—no conception of a Cause, and are not even polytheists. One of them who was taken captive said that his countrymen 'had no kind of worship, not even the most gross, being entirely ignorant of the being and nature of a God.'" 6. Finally, of the *Veddahs* of Ceylon, Sir J. Emerson Tennent†† does not hesitate to say, "They have no religion of any kind,—*no knowledge of a God or of a future state*; no temples, idols, altars, prayers, or charms." Mr. Bailey, long a resident among them, confirms this judgment, "They have no knowledge of a Supreme Being! 'Is he on a rock? on a white ant-hill? on a tree? I never saw a God,' was the only reply I received to repeated questions. They have no idols, offer no sacrifices, and pour no libations."

It is probable that these testimonies might by further search be largely multiplied; but if not, they are alone amply sufficient to set the question at rest, and to prevent the repetition of that which is, on the best interpretation, very questionable. We need not, therefore, weaken them by cases like that of the Diggers, who, because they consider the world to have been made by a large capote, and the sun by a cunning rabbit, are supposed to believe in a superior Intelligence! A vague fear of the Unknown is found even among animals, and is widely different from the belief in a God. At the same time, every one would rejoice if the testimonies here adduced could be impugned by trustworthy evidence.

It is not necessary to say anything about the supposed world-extensive belief in a future state. It is absurd to say that such a belief *can* be general among all nations, when it is now all but universally admitted that it was a belief at the best but *very darkly*

* Personal Advent. in South Africa, p. 12.

† Lake Regions of Central Africa; Schultheiss, in Perty, Grundzüge d. Ethn., § 274.

‡ Voyage to Madagascar, Pinkerton, xvi, 241.

§ See Pouchet, De la Plur., ch. v, pp. 90-115.

¶ Second Voyage, p. 548.

** Adventures among the Andamaners, pp. 14, 303.

†† Ceylon, ii, 441.

revealed even to the ancient Jews* themselves before the captivity; and that when they did learn it, they continued to assign *total annihilation* to those who denied the resurrection and the judgment. The Scriptures themselves teach us that it was Christ, and not Moses, who "brought life and immortality to light."

The PRESIDENT said that Mr. Farrar had done great service to anthropology in bringing the subject of the asserted universality of belief in the existence of a God and a future life before the Society. He had stated many facts which deserved to be more noticed than they have been; for the universal belief in the existence of a supreme Creator had been generally assumed. This was so much the case that at a meeting of the Sydney Philosophical Society much surprise was excited when the question was raised whether it was true that the aborigines of Australia had no notions of a God. The question was examined into, and the assertion of Mr. Laing to that effect was pronounced to be perfectly correct. In Victoria, indeed, it was found that the natives entertained a notion of a good and a bad spirit, but Victoria was a small district, and the evidence on the subject obtained there afforded no real answer to the assertion of Mr. Laing and others, that there is no universality in the belief of a God. As to the assumed belief in a future life among all tribes of savages, such a notion was quite out of the question if they did not believe in a God. He should be glad to hear evidence on the subject from any gentleman present. The facts stated in the paper were very important, and he should be pleased if any facts could be brought forward on the other side of the question.

MR. REDDIE said there could be no doubt it was an unfortunate proposition that had been advanced many years ago, that the existence of a God could be proved by the universality of such a belief. There were, doubtless, many degraded nations who had no proper idea of a Supreme Creator; but it was questionable whether all the assertions which travellers had made on this subject were correct; for a great deal of what they represented rested on a very slight foundation. There could be no doubt that, even in our own country, there was great ignorance of religion; and fifteen or twenty years ago a blue book was published, containing the report of the Commissioners on Education, in which it appears that they had found among our own people in the mining districts persons who were totally ignorant of a God. With respect to the assertions of travellers it might be observed, that many of them know so little of the language of the savage races they have visited, that even if they had a belief in a God they would often not know how to express it, or would not be well understood. It was a fact, even in our own country, that many men, women, and children, often gave very lamentable answers to the questions put to them; but these questions (as appears by the Blue Book referred to) were often not very skilfully framed, in language adapted to the common people; and it was very doubtful whether the questions put by travellers, who had but an imperfect knowledge of the imperfect languages of savage

* See Ps. lxxxviii, 10-12; Is. xxxviii, 9-20; Ecl. ix, 5, 6, 10; Job xiv, 19-21; Eccles. xvii, 27, 28, etc.

tribes, were calculated to gather the accurate meaning of the people they addressed. But it would be a false deduction to think that a race of people had always been devoid of the knowledge of a God, because some of them had since sunk to that degraded state. Though a great portion of the statements quoted by Mr. Farrar might be true, yet it was sufficiently apparent from the recent works of travellers—and he referred especially to that of Captain Speke—how little they often used their eyes or their intellects to discover trustworthy facts in their intercourse with the natives; and he ventured to think that much of what travellers had said might be questioned, as merely formed upon inadequate and superficial considerations.

Mr. LOUIS FRASER said that all the negroes of Africa whom he had seen believed in the existence of a good spirit and of a bad spirit. They did not attend much to the former, because they thought he would do them no harm; but they were in great dread of the latter, and endeavoured to propitiate him.

Mr. WALLACE said that when he was among the wild tribes of the Moluccas and of New Guinea, he endeavoured to ascertain what were their ideas respecting the Creator of the universe, but he could only get from them a confession of total ignorance of the subject. It was difficult to distinguish the real opinions of those savages from the opinions that they had heard. If they were told by any traveller that there was an invisible Creator of the universe, so far as they were capable of receiving such an idea they would receive it, and repeat it afterwards when questioned on the subject; but so far as he was able to ascertain, they had no such idea whatever. They had no desire for knowledge, but were contented to go on in their own ways. They have, indeed, some vague ideas of the existence of unknown powers; diseases, for instance, were supposed to be unnatural, and to be caused by some supernatural agency, but that was very different from the belief in a God. The intellectual capacities of those tribes were so feeble, that he doubted whether they could be made to appreciate or understand what was meant by a God. They were unable even to comprehend the simplest relations of numbers, such as the adding of four and five together, or even less quantities, without putting stones before them and showing them the amount visibly. In the same manner, their language contained no general terms. They had names for particular things, but for no classes of things. They had names for particular trees or plants, but they had no names to express the meaning of trees or plants in general.

The Rev. Mr. KEER expressed great satisfaction at having heard the able paper of Mr. Farrar, for he had often considered that it was a question which deserved careful thought. His own experience in several large parishes in England had taught him that, even in this country, there were many persons who had but little notion of a God. In Liverpool he had found several instances of persons who were occupied in certain kinds of employment who had very little idea of a Supreme Being. In the eastern parts of London also, he had met with several similar instances; and he had no doubt that a great many, even in this Christian country, had no idea of a God. It had been asserted

by Grotius in his work *Religionis Christianæ*, that the idea of a God was general throughout mankind, but his own observations among the heathen at home bore out the remarks of the travellers who had been quoted by the author of the paper.

Mr. T. BENDYSHE observed that two questions had been mixed together in the discussion, which were really quite distinct. It was one question whether there are individuals in any community who have no knowledge of a God; and quite another question whether there were races of men devoid of such knowledge. That there are individuals who are ignorant of the existence of a Supreme Being must be apparent to every one who investigated the subject. He considered it very doubtful whether the Australians, as a race, had any idea of a God. That some individuals among them might have was probable, but that would not negative the assertion of the author of the paper. It had been said by Mr. Reddie that the opinions formed by travellers might be owing to their ignorance of the language of the tribes whom they visited. But there were cases to which that objection would not apply. There was a well authenticated case of a man who was a captive among a savage tribe for thirteen years, who stated that they had no notion of a God, and that statement was made with a full knowledge of the language and of the sentiments of the tribe. It was stated, also, by Captain Speke, that when he asked the king of Uganda whether he believed in the existence of a Supreme Being, he laughed at the idea of such a thing. The prevalence of some superstitions was not sufficient to prove the belief of a God. There was a great distinction to be observed between Fetish practices, and other superstitions of the kind, and the belief in a Supreme Creator. To establish the position of the author of the paper, all that was wanted was the proof of one negative instance. Captain Ross was among the Esquimaux for several months, and the whole of that time he saw no indication of any religious worship. Even among the Chinese, there was no word to express the signification of a Supreme Being, the word God and heaven being synonymous,—so difficult was it for them to conceive the meaning of the word God. Those instances were, he thought, sufficient to prove Mr. Farrar's general proposition.

The Rev. F. W. FARRAR said his object in bringing the subject before the Society was to obtain testimony on one side or the other. He should have been delighted if the opinion he had stated, on the authority of various travellers, had been refuted by other travellers; and that was his main object in bringing the question forward. After all, however, the main assertion in his paper was little more than what was stated in the Bible—that there were people who knew not God. They had, indeed, heard it stated that evening by a London clergyman that even in England there are people living within the sound of church bells who do not know anything of God. That was important evidence, and after that they should not be surprised that in certain parts of the world there are savage tribes who have no belief in a God. All races, probably, have a *fear of the unknown*, but a similar feeling exists among animals, as may be proved by many well-authen-

ticated instances, some of which have been adduced by Prof. Carl Vogt. Of course, it was well known that *individuals* in all nations were unfortunately to be found who had no belief in a God. Even among the Greeks, there were some who avowed their disbelief in an invisible Creator of the universe. It was a verification of the maxim that extremes meet, to observe the strong intellect of cultivated men arrive at the same conclusion as the most degraded types of humanity.

The following paper was next read :

On Hybridity. By the REV. F. W. FARRAR, M.A.

WE hope in the following paper to adduce some evidence in favour of two propositions, viz. :

I. That it is erroneous to assume that the fertility of hybrids furnishes a decisive proof of the unity of species ; and

II. That it is as yet premature to assert that the union of all varieties of the human race produces an offspring continuously fertile.

I. Of course if we choose to define species in a conventional way, and consistently abide by our definition, we may apply the term to all varieties which are capable of producing between themselves a fertile offspring. But then it is a mere playing with words to assert that the intermixture of all human races is "eugenesic", and then to say that we have, in any valuable sense, proved the unity of the human species ; on the contrary, we have merely been reasoning in a vicious circle, and misusing philosophical terms. If, again, we could prove that all races of men can produce by intercourse a *continuously* fertile offspring, we should prove that fact,—and it is an interesting one,—but we should prove *nothing more*. We should still leave absolutely untouched the question of their origin from a single pair.

The definition of species, which makes it depend on the fecundity of cross-breeds, is very open to attack. Fruitful hybrids have been produced between animals whose common origin cannot for a moment be assumed. The repulsion supposed to exist between different races of animals is occasionally* overcome, though not so easily as in the case of men. Positive experiment has proved that the wolf† and hound, hound and fox, camel and dromedary, goat and sheep, goat and steinbock, horse and ass, are severally capable of producing fertile offspring. But does any one venture seriously to assert that these classes of animals must therefore have severally originated from single pairs ? Yet if not, it is absurd, on the assumption of similar grounds, to make such an assertion in the case of man. Besides, as Vogt justly remarks, what we call species is merely an abstraction from individuals ; and, similarly, fruitful intercourse, as a character of species, is merely an abstraction derived from the observation of a comparatively few individual cases.

The remarks of Agassiz‡ on this whole subject are so weighty and

* Jessen, Ueber die Lebensdauer. Bonn, 1855.

† See on the whole subject, Broca, Sur l'Hybridité ; C. Vogt, Köhlerglaube und Wissenschaft, § 68 ; and Bulletins de la Soc. de l'Anthrop., Apl. 1860, where the whole subject is ably discussed by MM. Broca, Boudin, De Quatrefages, etc.

‡ Provinces of the Animal World, Types of Mankind, p. lxxv.

authoritative, that we must here quote a portion of them in spite of their length. Speaking of the horse and ass, the tame bull and wild buffalo, the three species of bears, etc., he says: "The ground on which these animals are considered distinct species is simply the fact, that, since they have been known to man, they have always preserved the same characteristics. *To make specific difference or identity depend upon genetic succession is begging the principle, and taking for granted the question under discussion.*... We know that the horse and ass, etc., may be crossed, we are therefore not justified in doubtful cases in considering the fertility of two animals as decisive of their specific identity; any definition of species, in which the question of generation is introduced, is therefore objectionable. The assumption that the fertility of cross-breeds is necessarily limited to one or two generations does not alter the case, since, in many instances, it is not proved beyond dispute. It is, however, *beyond all question*, that individuals of distinct species may in certain cases be productive with one another as well as with their own kind.... I am prepared to show that the differences existing between the races of men, are of the same kind as the differences observed between the different families, genera, and species of monkeys or other animals;... nay, the differences between distinct races are often greater than those distinguishing species of animals one from the other.... Unity is determined by a typical structure, and by the similarity of natural abilities and propensities; and, unless we deny the typical relations of the cat tribe, for instance, *we must admit that unity is not only compatible with diversity of origin, but that it is the universal law of nature.*"

II. It was asserted by Prichard, and has been reasserted, as a capital point in their argument, by all monogenists, that the union of any two human races is capable of producing an offspring *continuously* fertile. This proposition is, as we hope to show, at least *premature*.

In the first place, we ask with M. Pouchet,* "have all, or anything like all, the combinations been tried? the union, for instance, of the Esquimaux and the Negro, of the American and Australian, of the Tartar and Bosjesman?" Moreover, is it certain that of those which have been tried all *are* capable of producing a progeny capable of perpetuation? M. Broca, who has made hybridity his special study, expressly denies it. Is it, for instance, certain that the hybrid† between the European and the Australian woman is fertile in even the first instance? Does there exist—in spite of the opportunities which have occurred—a single hybrid between the European and the Andamaner?‡ or between the Kaffir and Hottentot? or between the diminutive Negroes of the Philippines and the Malay? or between the Veddahs and Cingalese? Count Strzelecki asserted that Australian women, who had once lived with Europeans, became infertile for their own race. If this were certain, it would be a most important fact; but it has been keenly contested. On the one hand, Goodsir,

* De la plur. des Races Hum., p. 134.

† Such half-castes are very rare. Jacquinet, Voy. au Pôle Sud. Zoologie, ii, 353.

‡ Om. d'Halley, Des Races Hum., p. 108.

Carmichael, and Maunsell have pronounced it *unquestionable*;* on the other hand, Mr. F. Heywood-Thompson† has denied it absolutely. This much, however, appears to be certain, viz., that such a mixture of races produces among several savage tribes a strong *tendency* to sterility, and this is a consideration which obviously has much weight in the argument.

It is true, that M. Om. d'Halley‡ reckons the number of half-castes in the world as amounting to the enormous sum of 12,300,000. But this proves nothing, unless it can also be shewn that they are maintained without infusion of fresh blood, and solely by intermarriages among themselves. Now, after all that has been asserted, it is extremely doubtful whether there exists on the globe a *single hybrid race*. M. Pouchet, supported by a host of great authorities, maintains that there does not. In many cases it is *known* that the intermarriage of hybrids leads to rapid extinction. The Griquas on the Orange River—the favourite instance of Prichard and all monogenists—a tribe of half-breeds between Dutch and Kaffirs, are asserted by eye-witnesses to be constantly replenished by fresh blood, or else to revert rapidly to the African type. Nor is there any other single people§ which can be pointed out as a positive proof that a race of hybrids can maintain itself without constant fresh infusions. As long as this is the case, and as long as we find such writers as Dr. Knox and M. Broca denying the universal fertility of different human varieties, or the certain continuation of any really hybrid races, we may safely hold that the question is as yet very far from being so decided as monogenists have maintained.||

Nor are positive facts wanting to support the belief that a race formed by the mixture of two very different types is *incapable*¶ of maintaining itself. The Mamelukes could never propagate their race in Egypt. In the Isle of Flinders, where perished the last miserable remnants of the aboriginal Tasmanians, barely one or two children grew up from the intercourse of the convicts with the native women. M. de Rochas** says, that in New Caledonia, in spite of very numerous unions, he only met *two* half-castes. There are half-castes of Kanaka women (in the Sandwich Isles) with Europeans,†† Negroes,

* Bull. de la Soc. d'Anthr., Apr. 1860.

† Journ. of Ethn. Soc.

‡ Des Races Hum., pp. 109, 117.

§ Of the Cafusos, a cross between blacks and red-skins, we must know a great deal more, before we can accept them as a case in point. Prichard (Nat. Hist. of Man, i, 27) quotes an account of them from Martius and Spix, Travels in Brazil.

|| See on this subject, Dr. Knox, On Race; and Broca, Sur l'Hybridité, *passim*; Caldwell, On Unity, p. 35; Rev. des Deux Mondes, viii, 162; Col. Hamilton Smith, Nat. Hist. of the Human Species, p. 21; Pouchet, p. 78; Dr. Knox, On Acclimation; Nott and Gliddon, Types of Mankind, p. 465; Indigenous Races, p. 367; Squier, Notes on Central America, pp. 54-58; Davis and Thurman, Crania Britannica, p. 7.

¶ Some of these facts are attested by M. Pouchet, pp. 135-153. He quotes Types of Mankind, p. 373; Boudin, Geog. Méd., i, xxxix; Indigenous Races, p. 443; Squier, Nicaragua, ii, 153; Cabanis, Rapports du Physique et du Moral, i, 484; Courtet de l'Isle, Tabl. Ethnogr., p. 77, etc.

** Bulletins de la Soc. d'Anthrop., Apl. 1860, p. 402.

†† Ibid., July 1860, p. 509.

and Chinese, but two half-castes are *never fertile among themselves*. According to Dr. Nott, half-castes are short-lived, and, if they intermarry, are unprolific. In Java, according to Dr. Boudin—a very high authority—the half-breeds between Dutch and Malays cannot subsist beyond the third generation. The Zambos—sons of Indians and Negroes—are the most degraded and criminal of all classes; the sons of Spaniards and Indians are weak and poor in type. Mixture of types in *most* cases, if not in all, leads to “*abrutissement*” and degradation. Mulattoes, as is well known to practical physicians, have a special tendency to consumption and other diseases. From a multitude of such considerations M. Pouchet deduces two laws:—1. That no mixed race can exist *of itself*. 2. That when two races come in contact, either one absorbs the other, or they continue unchanged side by side, with a third inferior and less numerous set of half-castes.

Hybridity was one of the three *causæ degenerationis*, which, according to Blumenbach, caused the primeval white race to degenerate into dark varieties; the other two being *climate*, and *mode of life*. We may remark, in passing, that these must for Prichard, and those who follow him in regarding all races to have sprung from the black and stupid African, be considered on the other hand as *causæ perfectionis*! With climate and mode of life as supposed causes of variety we are not here concerned; but all that has been advanced about *hybridity* in this brief paper will amply tend to prove that the crossing of races, *so far from producing differences, only attenuates them*, by creating a mean between two extremes. “It does not produce varieties,* but is only the consequence of them; and even in this limited function its action is insignificant.”

Professor Rudolph Wagner, in his Anthropological Lecture before the Naturalists at Göttingen, put forward what he stated to be “certain results” of ethnology in seven axioms, of which two were that “the differences between various nations are not greater than those between animals of the same species, *e. g.*, the dog and sheep”; and “that all races of mankind produce fertile hybrids.” We have seen how baseless both axioms are, and we may add that recent scientific inquiries have pointed out the groundlessness of the assumption that the dog, for instance, forms in all its varieties but one single species.

So that in this branch of the subject—which is one on which monogenists most firmly rely—the facts tend powerfully against them; even if we accept their arbitrary criterion of species, which we do not; and even if we admit, which we do not, that unity of species is incompatible with descent from different pairs. It seems to us, that their method of treating this subject has been to assume the unity of the human species as an axiom, and then to prove it by a definition!†

Professor CARL VOGT (who spoke in French) said that the question was one which demanded great consideration, and on which many theories had been propounded, though none of them had received general acceptance. They were met at the very first step, in consi-

* Jessen, Ueber die Lebensdauer der Gewächse. Bonn, 1855.

† Pouchet, De la Plur., p. 118.

+ Vogt, Köhlergl., § 1.

dering the subject, with the difficulty of defining what is meant by species. By some persons it was regarded as an assemblage of individuals who reproduce their exact similitudes; but the continuance of fruitful intercourse proved, on examination, to be a very defective definition of species. Some classes of animals, for example, reproduce with others that are apparently dissimilar; and some which appear to approach each other in kind are not fruitful. The distinction of species could not, indeed, be proved by unfruitfulness any more than similarity of species could be established by continued fertility. He instanced the great differences between different kinds of dogs, which all reproduce, though one kind is only to be distinguished from another by its distinctive external characters. The question of distinction of species by hybridity could not, therefore, be determined, because they were ignorant in what the distinction of species consists. The external characters of animals also undergo much change by change of climate, of which the altered character of the dog introduced into Paraguay formed an example. The question might, perhaps, be resolved into a question of the transmutation of species; and to a certain extent he agreed with Mr. Darwin in that theory. As it was impossible to determine in what difference of species consists, either from the external character of animals or from hybridity, it was evident the question became one of great difficulty. To add to its complexity, there might be internal and external influences which affected reproduction in one case and not in another, and that increased the difficulty of arriving at any safe conclusion as to species from the test of hybridity. The difference of climate, for example, had a powerful influence on productiveness, of which the great fertility of the French in Algeria was an instance. There were, in fact, a multitude of considerations which affect hybridity, and before they could arrive at any satisfactory conclusion respecting the effect of hybridity as a distinguishing test of species, it would be necessary to ascertain what were the influences that affect it, and how far those influences operate. The question of hybridity, he considered, did not prove anything as to the unity or diversity of the origin of the human race.

Mr. A. R. WALLACE thought the meeting were much indebted to M. Vogt for the eloquent and forcible manner in which he had pointed out the excessive difficulty and complexity of the subject, and the state of ignorance which generally prevails as to what constitutes species. All the facts stated in the paper would, however, go to prove that no two *nations* could produce fertile offspring, for it might be said that in all instances where fertility existed there had been an influx of new blood. Such problems could not be satisfactorily solved, because it was impossible to make the requisite experiments on men. It might be done with animals, but with men it was a different thing. The only method by which the problem could be solved would be, to introduce into some island women of one race and men of another, and leave them to themselves, taking care that no other races were admitted on the island. But as that could not be done, no evidence could be obtained that was not open to objection. One of the in-

stances alluded to in the paper, as affording evidence against the general fertility of human races, rested on but slight grounds. It was asserted that with the Australians there was great difficulty in producing offspring even at the first cross, and that instances of subsequent fertility are rare. But he had received a communication from a friend, who had recently come from Australia, which contradicted that opinion. He stated that he had known two instances of Australian women having had children by white men and afterwards by men of their own tribe. Numerous cases of the kind, he said, occurred in the bush, in one of which the woman had four children; but the illegitimate children were always destroyed by the chiefs of tribes, which accounted for their scarcity. His friend also mentioned that he had seen half-castes who had children of their own, and his evidence also contradicted the assertion of Count Strzelecki, that Australian women who had lived with Europeans became infertile for their own race. There was the well known case of the Pitcairn islanders, in which the males of one race and females of another race were shipwrecked on the island, and lived together for a long time without communication with other people, and it would be important to know the results.

Mr. T. BENDYSHE said that the Pitcairn islanders increased so fast that it was found necessary to remove some of them to Norfolk Island, as they increased so rapidly that they exceeded the means of subsistence. There had been no mixture of other races among them, nor any infusion of new blood. So far, therefore, the evidence of the Pitcairn islanders contradicted the assertion that the progeny of mixed breeds are infertile. With respect to what Mr. Wallace had communicated about the Australians, there was a paper to the same effect inserted in the last number of the proceedings of the Anthropological Society of Paris, which gave an account of the half-breeds of Australia, and represented them to be well developed; and that these half-castes are numerous, notwithstanding all the statements of M. Broca. As to the statement of Count Strzelecki, it was evidently a very baseless assertion. The fact of the matter was, that the half-caste Australian women were nearly all prostitutes, and therefore they had no children. The fact that the Mamelukes could not propagate their race in Egypt, only showed that the climate of Egypt did not agree with them; and their infertility in that country did not apply to the case of hybridity in general. As to the statements of Dr. Knox, it should be borne in mind that he had taken his instances from the mulattoes in the Slave States of America, where the climate was not favourable for the development of the half-castes. In certain latitudes they would propagate, and in others not.

Mr. JAMES REDDIE remarked on the complexity of the general question of hybridity, and on the want of some more accurate definition of what constitutes a species. The question of the fertility of hybrids, or whether all varieties of the human race now existing can produce a continuously fertile offspring, did not, however, affect the question of the original unity of the human race. He conceived that even Mr. Wallace's suggested experiment would not be satisfactory, even if it could be carried out; for the argument did not depend on

proving the continued fertility, say of the progeny of black women and white men, for it might still be a question, whether the result would be the same if they were to reverse the cross, and see whether we should equally have a progeny from black men and white women; which, according to M. Broca, is impossible.

The PRESIDENT observed that the question was so difficult that it was impossible, in the present state of knowledge, to come to a definite conclusion. The great advantage of the paper was, that it might elucidate further information; and he hoped it might be the means of bringing many more new facts to light. He believed that the evidence yet received on the subject was in favour of the propositions of M. Broca; there were, however, very few facts and data to rest upon. With respect to the Australians, it was stated by Mr. Stanbridge, that it was very difficult to rear the half-castes, and he related no tales about killing them. There was very little stability in their constitutions; they died off early, and the girls were always prostitutes. It was the same with mixed races in other parts of the world. In Virginia, the mulattoes suffered much more from the climate than the pure negroes; there was no doubt whatever about that fact. As to the question which had been raised of the existence of mixed races in France, he considered it showed such an utter confusion in the use of the words species and races, that nothing could be said about it. When talking of people so different as the Europeans and Australians, they might be properly called different species, without attaching to the term the signification that they had a different origin; but it was a complete confusion of terms to apply the word species to the different people of Europe. For his own part, he held most firmly the opinion that the difference in species among the races of men observable at the present day had nothing to do with the unity of the origin of man. The question of human hybridity was a very complicated one, and he did not hope to see it settled; but he felt sure that the meeting must agree with him that they were much indebted to the author of the paper for the light he had thrown on it, and it was satisfactory to see a clergyman of the Church of England contribute to the Society two such liberal and instructive papers as had been read that evening.

The PRESIDENT then stated that the paper which had been announced to be read by Mr. Blake must be postponed, on account of the absence of that gentleman from illness; and he called on Mr. Fraser to read a communication received from Africa relating to the capacity of the negroes for civilisation.

Mr. LOUIS FRASER then read a letter he had received from Mr. Anthony from the Bight of Benin, in which he expressed his full approval of the paper read before the Society by Dr. Hunt "On the Negro's Place in Nature;" and adduced a great number of facts in confirmation of the opinion that the negro is incapacitated by nature for European civilisation. He spoke,—partly from his own observation, and partly from hearsay evidence,—of the cannibalism of the negroes, of their brutality and mental incapacity, and of their posses-

sion of all the vices with none of the virtues of humanity. The writer expressed his sentiments against the negro very strongly.

Mr. JAMES REDDIE objected to the terms in which the negroes were spoken of in the letter. The most important and startling things said in it relate to cannibalism; but it is worthless, since the writer himself says "*all this is mere hearsay, of course*"! He thought they had had a great deal of trustworthy evidence collected about the negro, and he feared it might be supposed that they were getting up a case against him, if they appeared ready to circulate more loose statements and hearsay gossip on the subject. The letter, he considered, should be revised and corrected before it appeared in the proceedings of the Society, if it were printed at all. He was sorry to add that, valuable as some of the information it contained might be, even that was not fitted to appear in print in the precise terms in which it was written.

The PRESIDENT observed that it was no doubt very advisable to keep strictly to scientific matters in the papers contributed to the Society; nevertheless all authors must be allowed to express their opinions, and they were liable to have those opinions openly criticised in discussion. If the statements given in the letter were true, there could be no objection to their being stated; but if not true, they might be refuted. With respect to the assertion about the cannibalism of the negroes, all the evidence was not hearsay evidence, for there was the fact that the writer had seen one of the chiefs eating human flesh. That gentleman had been in Africa many years, and he wrote the results of his observations to his friend Mr. Fraser, who had been the naturalist of the Niger expedition. He (the President) could not consent to have contributions from foreign correspondents doctored, like wines, to suit the English taste and the English market. It was open to the Council to publish the letter or not as they thought proper; but he was decidedly of opinion that if published at all, they ought to publish every word as it reached them.

Dr. TURLE said he had understood that the papers read at the meetings of the Society were previously revised by the Council. He understood Mr. Reddie to mean that the paper was not intended by the writer to be read before the Society as it was written, and that it was merely a private gossiping letter to his friend. Papers of that kind ought to be considered by the Council before they were read.

Mr. REDDIE observed that his suggestion was to this effect: as the letter was evidently written off-hand, that the question should be considered by the Council, whether it was a paper that should be printed by the Society. He should be the last person to wish to alter what a writer deliberately wished to say. And, even now, if Mr. Fraser will accept the responsibility of the paper, and will revise it, then whatever he might wish to print, he (Mr. Reddie) would also say, *print*.

The meeting then adjourned to the 19th instant.

TUESDAY, APRIL 19TH, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

THE minutes of the last meeting were read and confirmed.

The number of Fellows elected since the last meeting was then read as follows:—

J. R. Brown, Esq.; Rev. W. H. Kemm; C. E. Mackintosh, Esq.; W. Jennings, Esq.; A. Robertson, Esq.; J. Mosheimer, Esq.; W. Gooch, Esq.; A. Hawkins, Esq.; W. Hardman, Esq.; J. Rae, Esq.; W. S. Jeffery, Esq.; E. F. Firby, Esq.; A. H. Hunt, Esq.; Major-General Le Grand Jacob; Rev. Dunbar J. Heath; A. Barton, Esq.; H. J. Adams, Esq.; Dadabhai Naoroji; E. J. Routh, Esq.; Prof. F. Hudson; Major W. E. Hay; K. R. H. Mackenzie, Esq.; J. Hillier, Esq.; H. Hudson, Esq.; H. F. Hall, Esq.; R. Haughton, Esq.; T. Harlin, Esq.; S. Messenger, Esq.; W. R. H. Kinlay, Esq.; W. Ewart, Esq.

THE PRESIDENT observed that the foregoing list of thirty Fellows elected since the last meeting was the largest number elected within any similar period since the formation of the Society, and he hoped it was an earnest of more to come.

The following papers were then read:—

On Skulls from Annabom, in the West African Seas. By CAPT. R. F. BURTON, Her Majesty's Consul at Fernando Po, Vice-President of the Anthropological Society of London, and C. CARTER BLAKE, F.G.S., Hon. Sec. A.S.L.

"Fernando Po, Oct. 23, 1863.

"Dear Sir,—I have the honour to send by this mail two calvaria—a faith offering to the Anthropological Society. They are from Annabom, the island in the West African Seas colonised by Portugal in 1471-1500. The whites afterwards mixed with the slaves of a shipwrecked English craft, hence the present Mulattoes. They are doubtless at times recruited by a few pure Africans, yet they preserve the "Métis" appearance, manner, and inclinations. They are Christians, and the dead are buried under the stamped earth of the largest church—a barn of plant and thatch. When the rude vaults are full, and room for another corpse is required, the oldest occupant's bones are rooted up, and thrown into the nearest patch of bush; hence the dilapidated appearance of the crania; yet they were the best that could be procured. I am trying hard to secure for you a Bube's head, but it is a difficult matter. With best wishes to the Society and to yourself, believe me,

"Dear sir, yours very truly,

"RICHARD F. BURTON.

"The Secretary of the Anthropological Society."

The two skulls have been received, and are certainly very interesting.

No. 1. The larger one, which I take to have been a male, exhibits all the more striking negro characters in its physiognomy. The narrow forehead, dolichocephalic skull, square orbits, and especially the markedly prognathic maxilla, are as well developed as in any ordinary negro from the Gold Coast. The spread of the temporal muscle, and the prominence of the supraoccipital bone, likewise accord with the conventional definitions assigned to the negro skull. The friable condition of the bones has precluded my bisecting the skull vertically, so as to arrive at a precise estimation of the angle of the foramen magnum. The sutures are obliterated to a great extent; and sufficient of the nasal bone remains to show it was flattened. The teeth in place are solid, and in good condition; the right upper canine has been conical in form, and its posterior surface, as well as part of that of the left premolar, has been worn away by the abrasion of the tooth immediately behind it in the series. The peculiar character which differentiates this skull from those of the majority of negroes with which I am acquainted, is the great breadth of the palate, which is deeply excavated, and to which the oblique implantation of the incisors gives a very remarkable appearance.

No. 2. The smaller size and less development of the muscular processes, may lead us to infer that this specimen belonged to a female, but to an individual of greater age, as indicated by the condition of the sutures. All the characters observable in the large skull accord with those in this specimen, with the exception of the nasal bones, which are here more elevated.

From an examination of the above skulls, according to my interpretation, there is no character which would lead us to consider that they belonged to any other race than the negro, viewed under his most favourable conditions, so far as regards food and freedom from disease. I can detect nothing approaching the "European" type; nothing superior to that of many well-fed negroes which I have seen from Ashanti.

C. CARTER BLAKE.

The thanks of the meeting having been voted to the authors of the paper,

The PRESIDENT said that though the communication from Captain Burton was short, it was interesting; and the two skulls that accompanied it would form a valuable addition to the Society's museum. There could be no doubt they were very interesting specimens; and he hoped they should be favoured with more of the same kind, so as to be better enabled to appreciate their character.

Dr. THURNAM read a paper on "The Two Principal Forms of Crania amongst the Early Britons," which will appear in the *Memoirs* of the Society.

Several skulls, taken from the barrows which Dr. Thurnam had opened, were placed on the table to illustrate the different characters of the skulls mentioned in the paper; and there were also exhibited a number of photographs of the various skulls discovered, intended for illustrations of the forthcoming part of "*Crania Britannica*." Dr.

Thurnam further pointed out, in one of the photographs, an instance of deformity supposed to be produced by posthumous pressure.

The PRESIDENT observed that the paper was most interesting and exhaustive; and he had no doubt the meeting would be anxious to return their thanks to the author.

Mr. W. BOLLAERT said that he had seen several similar instances of cranial deformity in Peruvian skulls.

Mr. P. O'CALLAGHAN inquired whether any experiments had been made to ascertain the relative internal capacities of the two kinds of skulls described?

Dr. THURNAM replied that such experiments had been made in every instance, and the internal capacities were fully given in tables in the work before referred to. The material employed for the purpose was dried sand, which, he believed, was better than shot or other materials that have been sometimes used for such measurements. As a general result, he believed it would be found that the long (dolichocephalic) skulls were of larger capacity than the round (brachycephalic) ones.

Mr. CARTER BLAKE observed that the paper was, as the President had observed, so exhaustive of the subject that, in his present state of health, he should merely put a few questions to Dr. Thurnam, with the object of developing a few points, and would reserve all future observations on the general question of British craniology. Dr. Thurnam's remarks had been restricted to skulls within the so-called historic period, and to the remains found with them; but there were other ancient British remains, which were alleged, on grounds which he (Mr. Blake) in many cases did not recognise, to belong to a more ancient period. Great stress had been laid by Professor Daniel Wilson on a skull that had been found at Montrose, which he regarded as a type of the old brachycephalic skulls of the ancient Celts. A similar skull was discovered at Kellet in Lancashire, which had slight supraciliary ridges. It nevertheless belonged to the round type of skulls; but it differed strongly from the skulls described by Dr. Thurnam this evening. He alluded also to such skulls as that from Mewslade, which Professor Busk had described, which was flattened at the vertex, with the occipital region produced and the frontal region depressed. At Muskham in the Trent Valley, in a peat-bed, a skull had been found accompanied with the bones of *Bos longifrons*, and even with those of *Bos primigenius*; but all these skulls seemed to be of the same type. The author of the paper had called attention to cases in which different kinds of skulls were found in close proximity. There were several in the British Museum from Etruscan burial-places, which had been found together, wherein similar differences could be observed; and Dr. Pruner-Bey mentioned having observed like differences between associated skulls in the Abruzzi. In one of the skulls of the old Etrurian bone cave a post-coronal depression was observed, and in those of the river-beds also there was the same peculiarity. The ancient skulls found on the Cheviots were to a certain extent of the brachycephalic character; and Mr.

Tate, of Alnwick—founding his opinion not on cranial developments alone, but on that of archaeological evidence—considered them to be those of the original Celts. He (Mr. Blake) should like to have Dr. Thurnam's opinion as to the relation of the old skulls in river-beds to those described that evening. He was glad to hear that Dr. Thurnam deprecated the theory of a connection between the ancient Basques and the occupants of the north-east of Europe. Such notions were from time to time put forth; and he (Mr. Blake) had recently been reading the small and superficial *Manual of Ethnology* of Mr. Brace, professing to treat on the subject of ethnology, in which much stress was laid on a supposed connection between the Basques and the Laplanders. He should also like to have the opinion of Dr. Thurnam respecting the Guanches of the Canary Islands. For his own part, after examination of the few Guanches skulls at his disposal (a number, of course, far inferior to those of Basques which M. Broca had examined), he saw no connection between the Guanches and the Basques, and they appeared to be *sui generis*. As to the cases of supposed posthumous distortion in Peruvian skulls, which had been noticed by Mr. Bollaert, he must say that he had never seen such a case, and very much doubted if such had any foundation in actual observation. The distortions of all the skulls he had seen from Peru, which he had described in a paper laid before the Ethnological Society, had been produced artificially during life; and the result of the distortion was, that the brain-case had been much minimised, all such skulls being of a very low rank, if we took such a table of the cranial capacities of different races of man as that cited by Vogt, on more or less accurate data.

Dr. THURNAM, in reply to the questions put to him by Mr. Blake, said that his impression was, that the bone-cave skulls and the river-bed skulls described by Professor Busk, Mr. Carter Blake, Professor Huxley, and other observers, were dolichocephalic, and they had both been pointed out as having post-coronal depressions. With respect to the period to which the skulls belonged, his opinion was that, unless archaeological evidence could be added to that of cranial developments, the question of age must be left very much in the dark. With respect to the skulls found in the Cheviots, he had no doubt that they were of the ancient British period and Celtic. As to the Guanches, he must say that he felt at a loss respecting them. The preponderating character of those skulls was dolichocephalic, and it was reasonable to suppose a connection between the former inhabitants of the Canary Islands and the neighbouring African population.

The meeting was then adjourned to the 3rd of May.

TUESDAY, MAY 3rd, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

The minutes of the preceding meeting were read and confirmed.

The names of the following twenty-five Fellows elected since the previous meeting were read:—R. Johnson, Esq.; Dr. T. Williams; C. Jervise, Esq.; J. E. Killick, Esq.; W. H. Mitchell, Esq.; H.

Johnson, Esq.; Sir J. R. Martin; W. N. Wilson, Esq.; Colonel S. O'Connor; Professor V. Wittich; Professor Müller; G. Wollaston, Esq.; G. Harris, Esq.; J. M'Donnell, Esq.; W. Kelly, Esq.; W. G. E. Hobbs, Esq.; J. R. Langley, Esq.; E. J. Morshead, Esq.; W. Chambers, Esq.; Rev. A. Jessopp; J. P. Jones, Esq.; E. Lawrence, Esq.; C. Richardson, Esq.; M. Ricardo, Esq.; and St. George J. Mivart, Esq.

Mr. A. HIGGINS, the honorary foreign secretary, read a letter from M. Broca, the Secretary-General of the Anthropological Society of Paris, expressing his gratification at the translation of his work on Hybridity by the Anthropological Society of London, and at the able manner in which it had been edited by Mr. C. Carter Blake. Mr. Higgins also read the following communications from foreign corresponding members of the Society :

" Paris, April 7th, 1864.

"MR. PRESIDENT,—I beg to express to the Society which you direct with so much zeal and talent, my warm appreciation of the great honour which it has done me in publishing an English translation of my *Researches on Hybridity in the Human Species*. I know better than anyone how imperfect this little work is, and how incomplete as yet are the materials relating to this important question. In collecting those materials and making them the subject of some articles in the *Journal de Physiologie*, my object was rather to incite to further research than to produce a didactic treatise; and your Council has shewn extreme indulgence towards me in selecting this modest attempt to present to the English reader under the distinguished patronage of the Anthropological Society of London.

"But I specially desire to acknowledge the favour which your able Secretary, Mr. Carter Blake, has done me in consenting to devote to this translation his time, so precious for science, and his talents as a writer. Nothing could be more flattering to me than thus to see my name associated with his in a work which has, in passing under his accurate and elegant pen, acquired real literary merit.

"The copies of the translation which you have placed at my disposal, I intend distributing among the principal libraries in Paris.

After acknowledging the receipt of the Society's recent publications :

"The Society has commissioned me to thank you in its name for the receipt of these numerous and important publications, which give eloquent witness of the activity and prosperity of our sister society in London, and of the efficient manner in which you direct it. The reports of your meetings become fuller and more important every day; and when we compare all you have done during your first year of existence with the little we had accomplished at the end of our first year, far from experiencing a feeling of jealousy, we rejoice to see the destinies of your Society confided to valiant hands. The paternal relation existing between the two societies prevents emulation, but not rivalry, and we are as glad of your success as we could be of our

own; well assured besides, that, as you have constantly shewn, this feeling is reciprocal.

"Allow me, Mr. President, to embrace this opportunity of offering you the expression of my personal sentiments of respect and high consideration.

(Signed)

"P. BROCA, *Secretary-General.*"

Vienna Imperial Academy of Sciences.—Meeting, March 17th, 1864.

Communicated by COUNT MARSHALL VON BURGHOLZHAUSEN,
Corr. Mem. A.S.L.

"Dr. Aquinas Reid, general practitioner of Valparaiso, has recently transmitted to Dr. Scherzer, who presented them to the Novara Museum, a series of ethnographical objects. Among them is a complete and uncommonly well-preserved mummy from Atacama, whose head, flattened back by artificial pressure, is covered with a peruke-like cap of net-work, made from an animal's hair, into which are artificially fixed long black hairs, identical in their distinctive characters with those of the actual American race. With this mummy, human crania, pottery, tools, and textile work have been found. Dr. Reid transmitted also a box with a wool-like vegetable substance (the leaflets at the basis of the frond of several species of ferns), used in South America—as they are also in Asia and in the Indian Archipelago, for stopping hæmorrhagia. These substances contain a large proportion of tannine, to whose styptic property they probably owe a great deal of their curative virtue. Dr. Seligmann has visited during past summer, the collection of human crania of Central South Germany and Switzerland, with the special purpose to ascertain the relations extant between the longitudinal Peruvian crania (Aymara or Titicacan race) and the similarly conformed crania found in Austria, Germany, France, and Switzerland, and generally known as Avarian. After having examined every one of the six Titicacan crania preserved in the collections visited by him, besides more than 1,000 of other races, Dr. Seligmann stated that an abnormality is peculiar to this race not to be found either in the so-called Avarian crania, nor in those of any other human race or tribe. It is the existence of exostoses, thickly besetting the right or left, or both sides, the anterior or the posterior, or both portions of the meatus auditorius externus, so as to diminish, transform, and even nearly obliterate its lumen. These exostoses have an osseous hardness, a broad basis, and a size from a grain of hemp-seed to a pea. Of the six crania submitted to examination, only one wanted these exostoses, larger than are generally those caused by morbid affection of the organs of hearing.

"The flattened crania of the Atacama and the other North and South American tribes all show (an already known) peculiarity in the shape of the porus externus, it being frequently slit-like, and its direction oblique from above and before to below and behind; but not one of them offers any trace of the exostoses characteristic of the Titicacan race. Dr. Seligmann is preparing a complete monograph of these and of the so-called Avarian crania."

Extract of a Letter from H.E. the President of the Argentine Republic, Don Bartolomé Mitré, to Mr. Bollaert.

Buenos Ayres, February 24, 1864.

"It is quite true, as Major Rickard has informed you, that I am occupied on a work relative to the Indians of this portion of America. A commission has been employed for some time in this interesting matter. The moment the work is completed, I shall have great pleasure in sending you a copy. I am much obliged for your kind offers to forward me what I may require on the subject of anthropology, particularly as regards the new school you belong to. I have read with great pleasure the contents of No. 2 you sent me of your Anthropological Society of London, in which I found much curious and interesting information, particularly as regards South America."

Mr. W. W. BOREHAM, F.A.S.L., exhibited a human skull found, with about twenty others, in cutting the Great Eastern Railway between the third and fourth barrows at Bartlow Hills, Essex. In the short communication which accompanied the skulls, Mr. Boreham stated that the skeletons were found, as nearly as he could ascertain, at the foot of the third hill, about two or three feet from the surface, and the situation is such that doubt may be entertained whether the hill was not raised after the bodies had been buried, and partly on the place of their interment.

Thanks were given to Mr. Boreham for his communication.

A paper was then read by W. BOLLAERT, Esq.: "On the Palæography of the New World." [This paper will be inserted in the *Memoirs*.]

The PRESIDENT said he felt sure the meeting would be happy to return their thanks to Mr. Bollaert for his very elaborate and interesting paper, and he regretted that some portions of it had been necessarily omitted in the reading on account of their length. It was a paper that required to be carefully read and studied, and he thought it would be better to adjourn the discussion of it to a future evening, when they should be able to do it more justice.

Mr. REDDIE observed respecting that part of the paper in which the author regarded language not as a natural gift to man but that it was invented by him, that he could not understand how that could be possible. It was very difficult to arrive at any proof on the subject, but experience affords no instance of the pure invention of even a word of any kind that was not borrowed directly or indirectly, or made up from some existing word. We adopt words and modify them, but we know nothing of the pure invention of a word, and it was difficult to know how a word could originate without some antecedent. He should like Mr. Bollaert to explain logically what he meant.

Mr. BOLLAERT said he had arrived at that opinion in common with most philologists, who believed that the different races of men had invented the languages they spoke. Those who had lived among Indians must have known that they had a very scanty power of language, and that they acquired such words as they have principally from the imitation of natural sounds. Thus the sound of falling

water they imitated, and they gave water that name. That he believed to be the beginning of the formation of all languages. The time when language was originally formed in that manner was a very different question. Another example he adduced was the word used by the Basques to signify the firing of a cannon, "s-tomba," which represented the first noise of the ignition of the priming and then the sound of the explosion. If there should be any further discussion of the subject he should be happy to go into it more fully.

Mr. BOUVERIE PUSEY inquired how far Mr. Bollaert considered the Creeks and Cherokee Indians were naturally adapted to receive European civilisation.

Mr. BOLLAERT replied that those tribes were not pure Indians.

The following paper was then read:—

On the Precautions which ought to have been taken to ensure the Health of British Troops, had any been sent to Copenhagen. By T. BENDYSHE, M.A.

SOME time ago there appeared a possibility that a considerable number of British troops might suddenly have been embarked for Copenhagen. On the propriety of such a step, a member of this Society can have, as such, no opinion whatever. Or, rather, he can only regret that there should be the slightest chance of British life being, under any circumstances, sacrificed in a foreign quarrel. It is not, however, the sword of the enemy which has been generally most fatal to the military expeditions which nations have carried on at a distance from their native land. The differences of latitude, of climate, and of endemic disorders, have too often been utterly neglected by those who order these expeditions; and it is for these reasons that the *Anthropological Society* may fairly discuss the abstract question, of how any large body of Englishmen, placed under strict control in a foreign country, may return least diminished in numbers and strength to their own. "The only memorable disasters imputable to sickness which occurred in the last great war, were those which occurred in the expeditions to San Domingo and Walcheren. And though these were chiefly imputable to soil and climate, circumstances beyond human control, it is to be hoped that they will serve in all time to come, to enforce the necessity of statesmen rendering themselves acquainted with them in calculating the risks of war."* "We may readily admit that the French expedition to San Domingo at the beginning of this century, the descent of the English at Walcheren in 1809, in the height of the epidemical season, and the Russian campaign in the winter of 1812, might have turned out quite differently from what history shows them to have done, if proper attention had been given to the medical geography of the yellow fever, the marsh fevers, and the effects of congelation."† It is lamentable to think that all the experience which

* Blane (Sir Gilbert), *Select Dissertations on several subjects of Medical Science*, London, 1822, p. 108.

† Boudin (J. Ch. M.), *Traité de Géographie Médicale*, Paris, 1857, tom. intro., p. xxxvi-vii.

might have been made so useful from a consideration of the circumstances attending these events, of which such ample records exist, should have been entirely neglected when the unfortunate expedition to the Niger, in 1841, was planned. In three weeks, on that occasion, 130 serious fevers and 40 deaths took place among 145 white men, whilst of 158 negroes, from America, in the same time, no single death occurred, and only 11 persons were slightly ill.

The first points to consider, in view of transporting large bodies of men, are the soil and climate to which they are to be sent, the time of year, and the local diseases which are endemic to the country. It should be ascertained whether foreigners are usually more or less subject to those diseases than the natives. The kind of men who are most likely to endure, or even to thrive, under the new climate, should be thought of; as whether tall or short, recruits or veterans, and, in our own case, whether English, Scotch, or Irish. No disorder, whose appearance might reasonably be expected, should find the army unprepared for it. The probabilities of active movement, generally conducive to the health of troops, or of continued inaction should be considered; and the experience which probably a few weeks even would give should be rigidly followed in determining the kind of recruits it might be necessary to despatch.

As the warm season advances, we will first give some account of the fatal expedition to Walcheren, undertaken, as I have already said, in full epidemical season.

The expedition to Zealand, which is in almost the same latitude as London, sailed from the Downs on the 28th of July, 1809, and made good their landing on Walcheren and North and South Beveland on the 31st of July and the 1st of August. The only military operation of consequence was the siege of Flushing, which was invested on the 1st of August, and capitulated on the 15th of the same month. In the beginning of September, the islands of North and South Beveland were evacuated, and that part of the army which occupied them returned to England, about 18,000 being left to garrison Walcheren. More than one-half of these died, or were sent to England on account of sickness in the course of the three following months; and the island was finally evacuated on the 23rd of December of that year.

Sir G. Blane, from whose Report my account of the expedition is given, and who arrived at Walcheren on the 30th of September, exactly two months after the landing, says that there were then two-thirds of the whole numeral strength of the army incapable of duty; and that it did not appear that their illness was connected with the nature of their duty, or owing to privations or neglect of any kind, for those were equally sickly who had enjoyed the utmost ease and comfort in cantonments with those who had been engaged in the siege of Flushing. This is especially worthy of observation. Statesmen and officers are too apt to think that if what are called the creature comforts of the soldier are sufficiently provided for, their duties as to his health are at an end.

Typhus also, and dysentery, had spared the troops to a remarkable degree; and "it admits of no doubt that the unfortunate state of the

army there, was solely imputable to the contamination of the air from a soil the most productive of deleterious exhalations of any perhaps in Europe, producing an endemic fever which has at all times been particularly severe upon strangers in the autumnal months."

In all cases those who slept in the upper stories were less liable to the disease, and had it in a milder form, than those on the ground floors. And the same thing was observed in San Domingo. Strangers also were very variously affected according to the districts from which they came. It was found that of the British troops, the natives of mountainous countries and dry soils were more frequently affected than the natives of flat and moist districts. It was also well ascertained that strangers, if they survive the first attack, become thereafter much less liable to the endemic intermittents.

Experience had also taught the French that troops should not be frequently changed, and that it was possible to acclimatise them to the air to a considerable extent, though, at the same time, it appears that in the case of the British sick, no perfect cure could be effected without their transportation to England.

The class of fever to which so many of our soldiers succumbed is called marsh-fever, and is one of the intermittents. And the great mortality must entirely be attributed to the fact that the army was sent there without any preparation, at the time of year when that disorder is most prevalent in Zealand. The French had observed that the oldest inhabitant did not remember a year in which this endemic had not disappeared before the end of October. And though the arrival of fresh troops about that time might somewhat disturb the observations, still Blane is of opinion that the number of seizures continued to diminish as the winter approached and advanced, conformably to what he had been told by the natives.

From the fact that the upper orders of society in Walcheren are always less affected with the endemic fever, and that the British officers suffered less than the privates in this campaign, Blane suggests that some measures might possibly have been taken with success to diminish the loss of life.

But this exemption is probably due partly to the fact that the officers would, of course, have the best and upper sleeping-rooms, an advantage which could not possibly be extended to the same proportion of common men, and partly to the influence of superior diet and cleanliness, the effect of which, however, must be considered not so much at any given period, but as diminishing a pre-disposition to low disorders and fortifying the constitution against them. It is not, therefore, likely that any sudden improvement in these respects would, under similar circumstances, have any effect in reducing the mortality.

The loss of British life on that occasion must be set down entirely to the disregard of all natural laws. And it was totally without excuse, because in the last century British troops had once before been sent to the same place, with exactly the same results; and, in fact, the statesmen of 1809 had precisely the same information that we have now.

In the spring of 1747 four battalions of English troops were sent to Zealand. Some went to South Beveland and some to Walcheren. They fell so ill that when the disorder was at its highest some regiments had only 100 men fit for duty; that is, less than the seventh part of a battalion. The *Royal*, in particular, had only four men who had never been ill.

The epidemical fevers in Zealand began that year much earlier than usual, in consequence of the great heats, and were much more severe than usual. The officers did not suffer so much as the others; and being better attended recovered sooner. The squadron which was anchored the whole time in the canal between South Beveland and the Isle of Walcheren, escaped entirely.

These particulars are taken from the well known work of Pringle, who goes on to say, "The epidemic of the hot season and the great endemic of this and other marshy countries, is a fever of an intermitting nature, commonly of a tertian shape, but of a bad kind. In Zealand, where the air is worst, it is called the gall-sickness. From the nature of their own climate, British soldiers are particularly liable to bilious fevers and fluxes in the wetter parts of the Netherlands. The commencement of these epidemics may be dated from some time in July to the beginning of August; their sensible decline about the first falling of the leaf, and end when the frosts begin."

The account of Sir John might stand for the year 1809; yet, in the face of such certain knowledge of what must happen, that unfortunate expedition was deliberately sent forth, which brought severe sickness to 26,846 Englishmen, and caused the death of 2,000 in the space of three months.

The campaign of Russia in 1812, though fatal to a much larger number of human beings is not so interesting, nor gives scope to so much observation as the Walcheren expedition. It is easy for medical men to describe the various effects of hunger, fatigue, and cold. But to the general observer, and to the statesman, and perhaps even to the soldier, it is enough to know that severe exposure to the cold, must necessarily, if carried to an extreme, involve the loss of any army, however powerful. To those who are desirous of details on the subject, the memoir of Baron Larrey will be most interesting; but I do not propose now to extract more than a few particulars from it.

In the retreat from Moscow, the first to fall were the recruits and the tall men. It had already been observed, in 1754, that in the Alps the French had more sick than the Spaniards. In Russia, the Dutch, the Prussians, the Hanoverians, and the Russians suffered most from the cold. The French of the South, the Spaniards, the Portuguese and the Italians came off best. The same was observed of the Italians and Spaniards in the time of Philip II. and III.

"I remarked," says Larrey, "that those who were of what is called sanguine and warm temperaments, resisted much better the benumbing effects than those who are called lymphatic. The Russians, themselves, according to the account which many medical officers gave me at Wilna, lost, from that cause alone, more men in proportion than the French."

It was remarked also at Madrid, in 1826 and 1827, the Spaniards supported the cold much better than the Swiss.

It is not, however, in very cold countries alone that congelation has been injurious to troops. During a march of two days in Algeria, the French lost 208 men out of 2,800 from the immediate effects of cold, and 22 more died in hospital from its effects, making a total of between 9 and 10 per cent. Of the remainder, 250 only completely escaped; the others were cured after a treatment which lasted on an average 35 days for each.

The thermometer on this occasion never fell, even during the single night passed in tents on this march, below 2 degrees below zero. But the chief cause of death was snow.

On the morning of the 3rd January, 1846, the corps was to leave the defiles of Bou-Thaleb for Setif, a distance of two days' march. But on the previous night an immense fall of snow took place. The young soldiers and those who had been recently ill rose benumbed. All that could be done for them was to administer a few drops of sulphuric ether and a little wine to drink. Fifteen were at once unable to walk, and two died almost immediately of asphyxia.

At seven o'clock the march began, but few had been able to eat any breakfast. At every ten minutes the column halted. At the descent of one defile where the snow concealed great holes, all the provisions were abandoned, and a great part of the tents and baggage. Corpses lay on both sides of the route. It was useless to lift up any soldier who once fell; and it was easy to observe the signs of coming death in many as they continued to march on.

About nine o'clock at night, the narrator, who was left alone with two others, found forty men with some of the baggage on the bank of a ravine. It was impossible to raise a tent, so frozen was the canvass. Such defence as could be made against the cold by piling up arms and knapsacks was done.

At dawn they recommenced the march. The sun was bright, but the snow was thick underfoot. In about two hours they came upon an ambulance tent where 40 men had passed the night. Of these 6 had died, 12 were placed upon carts, and the others refused to move. That night they arrived safe at Setif.

The first night, that is, before starting, the cold affected all nearly alike; but though on the march the little groups into which the men were dispersed underwent different degrees of cold, according to the position of their encampment. It was proved that the congelation and its effects depended principally upon the temperament, clothing, and circumstances in which individuals were placed.

Those who had been recently affected with agues, diarrhœa, or dysentery, were the first to succumb. But the officers, who were none of them left entirely without food or spirits, lost not a single man. Those who were unable, during the bivouacs, to prepare any fire at all, suffered much less eventually than the others; and that snow was the chief cause of destruction, and not any very severe cold, is proved by the fact, that out of 355 cases of congelation, 325 were in the feet.

It seems to me, however, that an equally efficient cause was the want of food; for it appears that during the forty-eight hours that elapsed from the evening of the 2nd to the arrival at Setif at night on the 4th, many of the privates tasted no food at all; and it may be doubted whether, if the march had been extended over three days, and time given for the preparation of food, at least before starting in the first instance, so great a mortality would have occurred.

I have not been able to collect much information on the diseases and climate of Denmark. Statistics respecting the Danish army have not been compiled in the way that has been done in many other European countries. And I regret to say that the works of Schleisner, of Hübertz, and of Panum, which would give us full accounts of the medical geography of the Danish kingdom, are not yet thought worthy of a place in the National Library. I have, therefore, been reduced to make the best use that I can of such hints as are scattered through the valuable work of M. Boudin. The maximum mortality in Denmark proper occurs during the month of April, and next to that in March and February, much the same as in England. The mean temperature of Copenhagen during the winter is $-0, 42$; whilst that of Edinburgh is $+3, 47$. The mean of the year is $+7, 6$. There does not appear, therefore to be any great reason for apprehending that any body of Englishmen would be likely to suffer much from the extremes of heat or cold on the Danish Islands. Intermittent fevers are so rare in Denmark, that they have only appeared twice in an epidemic form during a period of 30 years from 1826 to 1856. Since 1833, it has been observed that they cease as soon as ever the *grippe* appears, and return as soon as ever that disorder vanishes. The *grippe* is sometimes very fatal in Denmark, and it has been observed to proceed in a direction opposite to that of the winds. Our soldiers must, therefore, expect to be attacked either by the *grippe* or by intermittent fevers, and should the necessity unhappily occur, inquiries might be prudently made as to which at the time was the prevailing disorder. The *grippe* of the Faröe Islands, indeed, does not attack foreigners, but we must be careful in applying positively any conclusions from observations made on the diseases of that part of the kingdom to Denmark proper.

The British soldier perishes through diseases of the respiratory apparatus far more than from any other cause; and it is precisely this same cause to which the majority of deaths in Copenhagen are attributed. But it is far from being a proper conclusion that the mortality of any part of our army from this cause would necessarily be increased by an occupation of Copenhagen. For it is remarkable that a larger proportion of soldiers die of consumption and analogous diseases in England than anywhere else, and that the farther north the British soldier is sent, and the colder the climate, the deaths from those causes sensibly diminish.

It would be a most interesting subject for observation, what effect the four degrees of latitude and the three degrees of winter's cold by which London and Copenhagen differ would have upon a considerable number of Britons; and the result might obviously be of great importance in the treatment and advice given to consumptive patients.

Next to the United Kingdom, the greatest number of deaths from pulmonary disorders occur on the stations of Jamaica, the Antilles, the Bermudas, Malta, and Corfu; and it might be a question, whether, in case of necessity, the regiments at those places should not be sent to a more northern climate, rather than those from stations where such diseases have a less fatal effect.

The effects of congelation are not likely to be so great in what would probably be, under the worst circumstances, a peaceful sojourn in Copenhagen, as to make it worth endeavouring to send as few young recruits or men of tall stature as possible, with an eye to the experience derived from the Russian campaign.

But there is a class of diseases to which our soldiers are particularly subject, and which some writers do not hesitate to say are more frequent in the British army, and perhaps after all more pernicious than even consumption. During a period of seven years and a quarter, the English army in garrison in England exhibited 8,032 cases of venereal disorders in an effective of 44,611 men. This is a proportion of almost one to five, and the syphilitic disorders were much the most prevalent. This proportion, large as it is, seems to be somewhat less than what obtains amongst the ranks of the population from which the army is principally recruited. For, on the inspection of recruits for the militia, the subjects affected with venereal disorders were in the proportion of 25 per cent.

I believe that syphilis is most prevalent, and most fatal in its effects, amongst the youngest and strongest recruits who enlist. I need not point out here the immense loss in a financial point of view which this country must suffer every year, if this be the case, from a cause quite within proper control. It is gratifying to see, even in the highest quarters, a disposition to grapple with the evil in a sensible and effective manner. Still, the prejudices the authorities would have to contend with are by no means extinct. Nor, probably, would those prejudices present less obstacles among the soldiers themselves, than amongst classes who ought to know better.

Perhaps, no more efficient means could be devised of instilling the elements of sound principles on this point amongst all classes of the army, than a temporary residence in a capital where every precaution is taken that skill and humanity can suggest to diminish an evil, which bids fair to undermine the very defences of this country. I will, first of all, give some account of the laws by which prostitutes and those affected with venereal disorders are dealt with in Denmark, and then will go on more particularly to point out the regulations enforced in the Danish army in this matter.

Public houses of this kind, according to the ordinary meaning of the words, do not exist in Copenhagen. Prostitution is tolerated, but not licensed. The public women are under the control of the police; and whilst the great scandals of disorderly houses are avoided, prostitution is not elevated to the rank of a trade protected by the state.*

* The facts on this subject are taken from Parent Duchâtelet (A. T. B.), *De la Prostitution, etc.*, 3rd ed., tom. ii, pp. 744-762.

The minister of justice is, however, especially charged with the duty of preventing the propagation of syphilis; and under him the measures necessary are enforced by the police and the medical functionaries.

Those women whose names are on the public register are compelled, under certain penalties, to present themselves for inspection at the public hospital, once a week. They are cured gratuitously, and their names are never disclosed. Every endeavour is made to induce infected persons to come voluntarily to the hospitals; and in that case, they are treated with all the delicacy and consideration possible. They are also instructed in the best methods of preventing contagion, and these are either written or printed for them. The consequence is that all attempts to conceal these disorders are almost unknown at Copenhagen; so customary has it become for every woman, as soon as she finds herself infected, to seek the proper remedies.

It is not, however, with the women alone that the care of the authorities ceases. A woman is always invited to point out the person, whoever he may be, from whom she thinks she must have caught the disease. And such persons are in a private way, and according to their circumstances, requested by the police to take the necessary measures for recovering their health.

The ridiculous laws, which were made in more ignorant times, for the purpose of putting down prostitution altogether, and which have never been repealed, are now put in force, for the very different purpose of obviating its ill effects. Those who obstinately refuse or neglect to take the steps enjoined for being cured of disease are prosecuted, and sentenced to some short term of imprisonment.

Throughout Denmark, it is by law enjoined upon all the officials of the crown, and especially upon the clergy, to warn the people against the dangers of these diseases. The doctors, the landed proprietors, and even the bishops, are bound to report all cases of which they have accidentally cognisance. And the afflicted persons, of whatever rank they be, are invited, privately of course, to set about a cure.

In the army, no soldier is ever permitted to go on furlough without his health being first ascertained; or, in case of disease, to depart without a certificate of soundness from the doctor. Instructions are given them, on entering the service, upon the symptoms of the malady, and the best precautions to take. A soldier, on being taken ill, is compelled to indicate the person or place where he received the contagion; so as to prevent, if possible, its further propagation from that quarter.

The good effect of these wise and, at the same time, moderate precautions, may be imagined. In some districts of Denmark, a century ago, syphilitic disorders were epidemic, and in some sort endemic. But, with the exception of a few traces in some districts of Jutland, they may now be considered as almost extinct.

It seems impossible that such a system, if it is brought by accident under the immediate observation and experience of any number of Englishmen, should fail of exercising a salutary influence. The recruit who, instead of losing his health for life, within a few weeks of

enlistment, in London, or perhaps almost any garrison town, should find himself embarked for Copenhagen, would have time to acquire some sort of experience for his conduct; and could not fail, on his return to England, of perceiving the superior advantages of the Danish system. And if our negligence in these matters, induced by their natural consequences complaints from the Danish hospitals, such remonstrances could not but occasion some feelings of reflection in the minds of those to whom they would be addressed, as to whether any justification could be offered for giving the same licence to our soldiery in a country which is making such laudable efforts to extirpate an evil that we choose almost to ignore. I think, that should such a calamity take place as the occupation of Copenhagen, the good results that must necessarily follow from a comparison of the two systems of England and Denmark in this matter, would alone counter-balance the miseries, if it must be, of a warlike expedition.

Attention should also be directed by our doctors to the prevailing parasite in Denmark; whether the Englishman will be afflicted with the bothriocephalus instead of the *tenia*, and whether they will communicate the *tenia* to the Danes; and it may be expected that for some time after their return, the bothriocephalus would still continue to be found.

Finally, the stations to which the troops should be removed, on their return, ought to be a point for mature consideration. On the conclusion of the Peninsular war in 1815, the army which the Duke of Wellington had been so careful to preserve in good health and efficiency, was instantly broken up, and the different portions dispatched, without the slightest regard to any sanitary considerations, to all parts of the world; and many of the bravest regiments were soon decimated by fever in the West Indies.

Whatever disorders are found to be endemic in Denmark during the stay of the troops, will be likely to break out amongst them for some time after their return, at that season of the year when they are prevalent there. This is a fact observed both by Pringle and Blane, who says: "In the following year some of the officers and men who had escaped the disease, were taken ill in the autumnal months; and none, that I heard of, at any other season of the year." The stations, therefore, most favourable for the cure of such disorders should be kept in view.

Upon general principles, considering that pulmonary disorders are one of the greatest causes of mortality in the army, if it is found that a residence in Denmark has a beneficial influence in that respect, it would be very cruel at once to convey the troops to those places where this cause acts with more severity than any others: such as England generally, and especially London, and the southern coast. To Scotland there might not be so much objection.

The PRESIDENT, in proposing the thanks of the meeting to Mr. Bendyshe, observed, that it was a paper of great interest and of much importance, as it treated the general question in a practical manner. They had hardly heard sufficient in the paper of the propo-

sition of the author respecting the selection of men to be sent to different climates, nor of the kind of men that should be selected. He should be glad to hear from him if it was yet sufficiently known whether the Irish were better adapted than the English or Scotch to withstand the effects of change of climate. He did not think there were a sufficient number of facts yet collected on the subject from which any practical deductions could be drawn at the present time. As to the greater liability of tall men to be affected by climate, it was known that in other expeditions besides those mentioned by Mr. Bendyshe, they have suffered more than the short men. Another question to be considered was the temperament of the men; some men being naturally much better adapted to change of climate than others. The climate of this country and of Denmark was not very different, but there were persons much better suited to a northerly climate than to a hot one, and great attention should be paid to this subject by the military authorities. It was well known, for instance, that some men on going to India cannot stand the climate and that others can. As yet the data for satisfactory conclusions on the subject were not sufficient, and it was one of the questions that had to be worked out. As to the fact noticed by Mr. Bendyshe that change of climate and circumstances were not so fatal to the officers as to the common soldiers, he believed that such was found to be always the case, and it had been particularly observed in Ceylon. The circumstance that the officers are generally better lodged and better fed than the men might probably account for it. With respect to the remarks in the paper about syphilis, he thought they were much indebted to Mr. Bendyshe for having brought the facts before the Society. Those who were acquainted with the state of things in Chatham and had seen, as he had done, the effects of the disease on the soldiers, must be convinced of the importance of taking the subject into serious consideration. The enormous number of diseased women in the workhouse there was frightful. Government so far recognised the necessity of taking precautionary measures that they now gave money to a hospital for the treatment of the women; but as there were no regulations to prevent them from leaving the hospital or workhouse when they liked, the cases of syphilis could not be properly treated, and they went out before they were cured. The whole thing was in a state that merits to be seriously considered. It had been well said by Mr. Bendyshe that the disease was at present undermining the strength of the British nation, and it was an evil that loudly calls for redress. He thought the Society should make an effort to bring the subject before the government.

Mr. REDDIE observed that it appeared to him as if the meeting had resolved itself into a Social Science committee, for the consideration of which this subject was better adapted than for the Anthropological Society. He felt inclined to invite the author of the paper to read it before the Royal United Service Institution, for there it would be criticised by persons more fitted for the practical consideration of the suggestions now made, than a meeting of this Society. The military officers, he had no doubt, would there have stated the difficulty of carrying out such a project as recommended, arising from the im-

practicability of making the required selections. A regiment could not suddenly be pulled to pieces on the eve of war, for the selection of men of a particular size. It appeared, also, that the author only contemplated sending recruits to Denmark, whereas recruits were the worst possible class of soldiers to send out of the country. They were generally young men who were ignorant of the precautions necessary to be observed to preserve health, and least capable of enduring change of climate, especially when undergoing a new kind of life. The conclusions in the paper respecting the effects of climate on tall and on short men, were not in accordance with all the observations it records. The difference of climate between the northern counties and Denmark, however, is so slight that men generally would not care about it; but experience would probably show that, though the soldiers in Scotch regiments are mostly taller than those in English regiments, they would stand the climate of Denmark better than the English. The plan of selection proposed was altogether impracticable; and, if attempted, it would upset the whole organisation of the army. Nor would it be more practicable in the navy. The whole proposal, indeed, was utterly impracticable, though, at the same time, the subject was worth attention. That portion of the paper relating to the diseases of soldiers, he felt sure would meet with due consideration at the United Service Institution; and if the author would withdraw it from the records of the Anthropological Society and read it there, it would be well received and would be attended with more practical results; for it would be discussed by medical officers of both services. The medical authorities of the navy had given much attention to the health of the seaman; and what had been done, through the influence of the British Commander-in-Chief and the Medical Director-General of the Navy, in Malta, had proved more successful than what had been done in Denmark, judging from the description given in the paper. He did not think any country could have been so bad as Denmark was represented to be in that respect. The Danes, it seemed, were worse than we are; for it appeared to have been part of the duty of the clergy and bishops to point out persons who had this loathsome disease! This statement was so extraordinary, that nothing but the reliance he placed on Mr. Bendyshe as a careful collector of facts would have induced him to credit it: he should not have believed the assertion had it appeared in any ordinary book. He concluded by repeating that the subject, as treated by the author, was one that ought rather to be discussed by the Social Science Association, or at the Royal United Service Institution, where it would be heard by men more immediately interested in the matter and competent to consider it practically.

Mr. HIGGINS observed that so far from the subject being inappropriate to be discussed by members of this Society, it was one of the special matters considered by the Anthropological Society of Paris.

Dr. CAPLIN thought the reason why the disease was so prevalent in England, was owing to what the English called their liberty. The means noticed in the paper as being employed in Denmark to eradicate

the disease had been practised in Paris for a long time, where the girls had not the liberty to go about as they liked; but were under a system of inspection. He had heard it said: What an impure thing it was for the French Government to sanction such proceedings, and how tyrannical it was to exercise such restraint upon the girls; but liberty in this country went too far when public welfare is concerned. The woman might say she would not be examined, and the laws of this country would not permit it without her consent; whilst in France she is prevented from communicating the disease by this restriction, and thereby the ravages of this disease greatly diminished. At one time an attempt was made to put a stop to prostitution in France, but it was attended with worse consequences. The men seduced and abused the girls living in their families. It was far better for society at large that there should be women who made a trade of prostitution than that such a state of things should exist in families. He thought it was only right and proper to protect society by allowing women to practise prostitution, and to adopt proper measures in order to prevent the extension of the evil.

Mr. PIKE asked whether there were any statistics of the state of the Danish army in Copenhagen as to syphilis, for that would have an important bearing on the question of regulation and inspection. There were some statistical tables on the subject with respect to the Belgian and the French armies, which represented them to be in a better state than our own; but he had been told that worse cases of syphilis occur in Paris than elsewhere. It had been said that there is no soldier who has not had a flirtation with a servant-girl at some time or another, and it became a question whether the liberty that prevails among other women has not the effect of producing a class of "amateurs," who spread the disease as much as regular prostitutes.

Mr. BENDYSHE said, in reply to the observations that had been made, that his object in bringing forward the paper was rather to draw attention to the subject than to exhaust it. As to the objection of Mr. Reddie that it would pull regiments to pieces to put the plan of selection in practice, he observed that some regiments were formed altogether of tall men, and those might, therefore, be kept at home. The same objection would not apply to officers, who might be selected, and more care should be taken of the tall men than of the short. As to recruits, he thought the principal cause of their suffering more by change of climate was that they are generally young. Scotch soldiers do not stand the cold so well as those who come from a warmer climate; that was a fact which had been universally experienced. Thus the French soldiers withstood the climate of Russia better than the Russians themselves, and the Italians withstood it better than the French. As to the state of things among the soldiers in Copenhagen, the facts he had stated were derived from the report of the Minister of Police. With respect to Mr. Reddie's remark—that his representation of the prevalence of syphilis in Denmark made it appear worse than in England because the clergymen were employed to point out persons who were afflicted with the disease—all that he (Mr. Bendyshe) would reply was, that he should be glad to see the clergymen make them-

selves so useful in this country. He did not agree with Mr. Reddie in thinking that the paper was more fitted to have been read at the Royal United Service Institution. He thought it was better that the consideration of such questions should be diffused among other scientific bodies rather than be concentrated on one particular spot or confined to one class only. With reference to the observation of the President respecting the relative degrees of endurance of change of climate by English, Scotch, and Irish, he said he should have been glad to have entered into the question as regarded different effects of climate on different races, but the regiments were so mixed up with English, Irish, and Scotch, that there were no means of judging. Our army doctors were not accustomed to consider such things, for their experience was too limited to enable them to take general views. In the absence of more complete knowledge on the subject, no positive conclusions could be drawn, but some useful information might be gathered from such records as exist. Statistics were very much wanted in the Danish army. There could be no doubt of the fact alluded to by Mr. Pike that the amateur prostitutes propagated disease, and that over those there was no control; but it was the duty of the government to do what they could to prevent its extension. In Paris, in 1815, when it was occupied by foreign soldiers, the cases of syphilis increased very much; so much so, indeed, that the measures adopted to prevent it, were, for the time, abandoned; but when the foreigners departed, the usual precautions were resumed and the cases of disease decreased. Mr. Bendyshe said, in conclusion, that there was quite scope enough for another paper on the subject, if any one would take it up.

Mr. BOUVERIE-PUSEY observed that the Danish army consists of 60,000 men, who only serve for a few months.

The meeting then adjourned to the 17th inst.

TUESDAY, MAY 17th, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

The minutes of the preceding meeting were read and confirmed.

The names of the twenty-eight Fellows elected since the last meeting were read as under—J. G. Musgrave, Esq.; W. C. Lucy, Esq.; the Right Hon. Lord Stanley; T. Lucas, Esq.; Hon. Roden Noel; W. H. Levy, Esq.; C. P. Modelian, Esq.; J. Moore, Esq.; W. Newmarch, Esq.; Dr. Piesse; J. Radcliffe, Esq.; S. Solly, Esq.; J. A. Youl, Esq.; J. Middleton, Esq.; Rev. W. C. Lukis; the Earl of Southesk; J. Smyth, Esq.; F. W. Monk, Esq.; C. H. Luxmoore, Esq.; P. Spencer, Esq.; H. K. Spark, Esq.; J. S. Noldwitt, Esq.; Professor Leitner; T. Cannon, Esq.; Rev. Dr. Spooner; J. Mill, Esq.; C. Harcourt, Esq.; J. B. Perrin, Esq. Dr. Brice Smith was elected Local Secretary for Belfast.

The PRESIDENT said he had to make several important announce-

ments. At a late meeting of the Council a resolution had been agreed to for taking apartments in the upper part of the house in which they were assembled, from the Royal Society of Literature, in which to deposit the museum and library of the Anthropological Society, at the rent of £130 per annum. The Council had that afternoon agreed also to the following resolutions:

1. That a paid office be created in the Society, to be entitled the Curator, Librarian, and Assistant-Secretary.
2. That this office be held at an income of £100 per annum from Midsummer next, to be increased to £150 per annum on the Society attaining 500 paying Fellows, commencing the quarter next ensuing.
3. That the duties of this office shall consist in the general management of the Society's Museum and Library, editing the *Journal* of the Society, making indices to the Society's publications, and the conduct of the general affairs of the Society under the direction of the officers and Council.
4. That this officer be in attendance daily at the Society's rooms from 10 A.M. to 5 P.M., and that he be entitled to six weeks' vacation annually.
5. That applications for this office be sent to the Council before the 31st inst., addressed to the President.
6. That the foregoing resolutions be announced to the ordinary meeting of the Society.

The PRESIDENT then said that the Council had that day received the resignation of Mr. Carter Blake as honorary secretary of the Society, an office which he had discharged with remarkable ability. He was sure the meeting, as well as the Council, would very much regret the loss of his valuable services, and that they must all join in a high appreciation of the efforts he had made to promote the interests of the Society. The President, at the same time, hoped he might be permitted to say, that he believed the cause of Mr. Blake's resignation was, that he intended to become a candidate for the office of curator, librarian, and assistant secretary, which the Council had determined to establish, as announced in the resolutions which had just been read. The following resolution relating to the subject had been passed:

"That the Council receives with unfeigned regret, the announcement of Mr. C. Carter Blake's resignation of the office of Honorary Secretary of this Society; and in accepting his resignation, the Council desires to record its high appreciation of the value of Mr. C. Carter Blake's able, zealous, and successful efforts in promoting all the best interests of the Society."

Mr. A. HIGGINS directed attention to eight skulls and the cast of a skull which were on the table, and which had been presented to the Society by Professor Hyrtl. They were the skulls of natives of different parts of the Austrian empire.

The PRESIDENT stated, in reply to a question by one of the members, that the Society then consisted of 377 Fellows.

The following papers were then read:

On the Kirkhead Cave, near Ulverstone. By JOHN BOLTON, Esq.;
with an Introduction by GEORGE E. ROBERTS, F.A.S.L.

INTRODUCTION.

MR. BOLTON'S notes upon this bone-yielding cave, which I have arranged to form this communication, appear to be of some interest and value. Although we cannot claim this inhabited cavern as a dwelling-spot of any remote antiquity, yet the record of its contents cannot fail to be of anthropological as well as of archæological value.

The geological history of the cavern is simple. Caverns in limestone rocks belonging to the carboniferous series are numerous, wherever that formation is developed, whether in England or Ireland; in most cases they have communications with the surface above, either by a fissure or cleft in the strata, or in connection with the stratigraphy of the rock. It appears most probable that in the case of the Kirkhead cave the earth, which nearly filled it, dropped in from above, through an opening which stalactitic productions afterwards closed. Mr. Bolton has worked very industriously in the cave-earth, in company with Mr. Morris, whose interesting notes upon it are appended to his remarks, and Mr. J. O. Middleton, to whose care and kindness we have before been indebted.

G. E. R.

The cave which I am about to describe is situated on the western flank of Kirkhead Hill, on the west shore of Morecambe Bay, at a point about six miles from Ulverstone. The hill rises abruptly from the sea-shore, within a quarter of a mile of high-water mark, to the height of two hundred and sixty-four feet, and is composed of mountain limestone. The entrance to the cavern is eighty-five feet above high-water mark, the inclination of the hill from the cavern's mouth downwards being 65 degrees. I have been acquainted with it for about ten years; my first visit being in 1853. On that occasion I was accompanied by my friends Mr. J. O. Middleton, and Mr. Salmon, F.G.S. We found the height of the cave at its mouth to be three feet; consequently admittance could only be gained by crawling in on hands and knees. Beyond the mouth, the height of the roof varied from eighteen feet, at the part nearest the entrance, to twelve feet; the length of the cave we found to be forty feet, and its width twenty feet; the area consisting of one irregularly oviform chamber.

No communication between the roof and the surface of the rock above was apparent; though the thickness of the brushwood which clothed the hill rendered any investigations difficult. From the shape of the cave, it appeared to have been a natural reservoir for waters permeating through the rock, both from the surface and from springs; such communications having been extinct long before its occupancy by man and the smaller carnivorous mammalia.

The floor of the cavern, when thus first visited, was composed of a

brownish-red indurated clay. The two labourers who accompanied me made excavations in this to the depth of seven feet, over an area of about fifty square feet. The clay contained many *angular* fragments of mountain limestone, probably fallen from the roof of the cavern, and a few pebbles of Upper Ireleth slate, or of Coniston flags, varying in size from a walnut to an orange, and derived, probably, from rocks which are situated northward. These were all water-rolled. We also found in the clay a considerable number of mammalian and bird bones. At the depth of four feet, a portion of the right parietal bone of a human skull was thrown out. Continuing the excavation to a depth of seven feet, we obtained another human bone, which proved to be the second lumbar vertebra, and the radius and ulna of a young human subject. Below the cave-earth, we came to a floor of stalagmite.

On my return to Ulverstone after this exploration, I submitted the bones to Mr. Beardsley, F.G.S., F.A.S.L. I believe no visit to the cave has been paid since until very recently, when I have again visited it, and made further diggings into the cave-earth. Amongst the bones obtained at various depths on this occasion, are several jaws of badgers, and other bones of that animal, together with bones of fox, wild cat, goat, kid, pig, and boar; and, at a depth of three feet, a large and strong humerus of man. My friend Mr. Morris, who accompanied me, found three human teeth, and fragments of human bones, together with a tusk of wild boar, and a portion of large deer horn, about a foot in length, and ten inches in circumference at its extremity for articulation with the skull.

Scattered through the clay were many fragments of stick, burnt at one end, as if from the remains of fires; these, though interspersed through the whole mass, were more abundant towards the bottom of the deposit. In the stalagmite beneath the earth, which I then broke into, were several pieces of wood-charcoal.

The upper part of the cave earth yielded to Mr. Morris and myself some interesting evidences of the later human occupancy of the cave which Mr. Morris has described in a lecture lately delivered before the Ulverston Mechanics' Institute. There was also found a rude bone implement resembling a knife, a piece of carpal bone of goat (?) two inches long, having a round hole through it, as though it had been suspended as an amulet; together with several fragments of pottery rudely burnt, similar in composition to ancient British cinerary urns. The plans which I send you of the cavern are to scale.

The following extracts from Mr. Morris's lecture, add somewhat further to our knowledge.—

Upon digging into the floor it was found to be a heterogeneous compound of bones, earth, charcoal, angular fragments of limestone, with water-worn pebbles of blue slate. After disentombing a quantity of bones—amongst which were several human ones, consisting of the right and left parietal bones, femur, radius, ulna, and many others—the first object of interest discovered was a fragment of ancient pottery. It was of the rudest type, and bore no traces of the potter's wheel, nor of kiln drying. Progressing farther into the cave and

skimming as it were the surface, he found a Roman coin of the Emperor Domitian, covered only by a few inches of the soil. Here was a proof that for the last 1800 years the cavern had been undisturbed. A few inches deeper a portion of an axe was found; it had no doubt (on account of its weight) gravitated the few inches. A hammer and a knife blade were also found under similar circumstances. From the discovery of these articles, he inferred that they had conclusive evidence of the occupancy of the cave during the Roman period; if not by the Romans themselves, at least by some tribe of the wild Brigantes having intercourse with them. Starting, then, with the assumption that the physical aspects of the cave existed in the time of the Romans, under much the same conditions as they do at present, it follows, as a matter of course, that the deeper they went, if any traces of human occupancy were found, they would be of an older race. At the depth of about four feet he found a portion of an ox rib, formed into a knife, or similar instrument. Professor Busk, who had kindly determined all the bones submitted to him, has marked it as being 'cut or sawn with flint.' He next exhibited another portion of a small rib, from the same level as the preceding one; it bore unmistakable evidence of human manufacture, probably being an arrow-head. A singular bone relic accompanied it, of which Professor Busk said, 'This is a metatarsal bone of the pig, young, made as I think into a whistle. The reason I think so is because the whole of the interior is cleared out, which would not be the case were it merely to be hung on a string as an amulet. Though not made exactly in the same way, yet many similar bones converted into whistles have been found in the south of France belonging to the reindeer period.' Other fragments of bone with human handiwork upon them were found, but in so fragmentary a state that the sculptured design could hardly be made out. At the distance of a few feet from the entrance, there occurs a large block of stalagmite formed by the droppings from the roof; upon breaking into it there was found at a considerable depth, a layer of charcoal closely embedded, and a few bones, but so comminuted that only one portion of the under jaw of the pig could be determined. Under a thin bed of stalagmite, a little to the left side of this bank, was a boar's tusk, and a little to the right, under the same conditions was found a portion of the large red deer's horn. Near the same place there occurred the frontal bone of a human cranium, with a portion of the nasal promontory intact, and in close proximity the right and left parietals joined by the suture. About the centre of the cave, and at a depth of from six to seven feet, were found two unmistakable stone implements, they are of the rude, underground type, and similar to those found in the oldest bone caves."

The thanks of the meeting having been voted to the authors of the Paper,

Mr. G. E. ROBERTS said he had not been able to bring the flint implements found in the cave for the inspection of the meeting, neither had he been able to obtain part of the bones mentioned as having been submitted to Prof. Busk. All the other specimens of bones that had

been collected were on the table. The chief interest which these relics from the bone cave possessed, consisted in their showing many successive periods of occupation by human beings. It was conjectured that the Roman coin and the implements of iron had fallen through the roof of the cave at a subsequent period to its occupancy. They were found near the surface of the cave earth, and bones were discovered at successive depths till the stalagmite flooring was arrived at; and even in that formation some bones were found. It was probably a cavern of rapid accumulation and not of very great age; but it was important to state the results of the exploration of any cave containing the bones of man or animals that had occupied it in early periods of human history. Among the bones were a number referable to the badger, which were found at the very bottom of the deposit. They were stronger and longer than those of any typical badger of the present day. Mr. Roberts further stated, in reply to questions put to him, that he did not know at what depth in the cave-earth the pottery was found. The flint implements were of the ordinary type, of the rudest manufacture, rough and unpolished.

Mr. CARTER BLAKE said the human remains found in this cave differ in several important respects from those generally discovered in caverns in the north of England, and still less did they resemble those in the Heathery Burn case in Durham, where the human bones found indicated that they were those of men of a lower type. These differed from them, however, in the development of the frontal sinus, which in most of the skulls was entirely suppressed. These remains were apparently those of a distinct type of man to those from Heathery Burn; but judging from the large quantity of animal matter that was present in the bones, he considered that they could not be of very great antiquity.

Mr. JOHN MIDDLETON explained the discovery of the cave by two labouring men in the first instance, and the difficulty which was experienced in gaining access to it.

On Human Remains from Peterborough. By C. CARTER BLAKE, F.G.S., F.A.S.L., and GEORGE E. ROBERTS, F.A.S.L.

Mention is made in the Register of Peterborough of the importation of the plague from London in 1665-6. The burials of persons who died took place in a field near the town, still called the "Pest-house Close." In making a new road, a great number of these bodies have been dug up; they appear to have been interred without coffins, and with no regularity. The two skulls which we have obtained possess slight cranial variations from ordinary types, sufficient to render one, at least, of interest.

No. 1. This is a skull, long and dolichocephalic in form, without marked elevation of the parietal tubers. The curve of the frontal bone is equable in its direction, and is evenly continuous along the sagittal suture until about its middle, where it becomes depressed, in the mode which M. Pruner-Bey alleges to be common in Celtic skulls;

a flattened, and even concave space extending on either side of the posterior third of the sagittal suture, this depression apparently not being due to parietal occipital flattening. The supraoccipital bone has its upper contour, at the lambdoid suture, elevated high above this depression: the lambdoid at the same time not exhibiting either peculiar complexity, or any tendency towards wormian ossifications. Slight traces of suture extend below the upper half of the supraoccipital bone on the left side; beneath which the occiput shelves gently away to the lower semicircular ridge; and beneath is flattened in its course to the foramen magnum. The upper line of the squamosal forms an equable curve, its anterior bones being at its connection with the alisphenoid, raised to a higher level than the greatest part of the above-named bone, especially on the left side. The zygomæ are slender; but the mastoid processes and digastric fossæ are well marked. There is no supramastoid, nor are there paroccipital eminences. The palate is smooth and flat, the incisive alveoli not strikingly prognathic; the nasal bones are slightly flattened. The orbits are quadrate; the upper inner angle of each being well elevated. No teeth are in place.

The lower jaw indicates age; the coronoid process is rather high, extending far above the condyle. The attachments for the masseter are well marked; but the depression for its reception is not strikingly deep. The molar series is entirely absent on the left side; traces are shewn of one shattered tooth (*m* 1) on the right side: alveolar absorption has removed the rest of the series. All the other teeth are in place. Their erosion is not great, nor is there any trace of caries. According with the proportion of the skull, the lower jaw is slender in form.

No. 2. This skull, evidently that of a male, differs from No. 1 in the large proportions of its muscular attachments, especially of the mastoid, upper semicircular, and supramastoid ridges. The temporal ridges are also well marked, and the zygomæ large. Both these skulls are, however, aphaenozygous. Large supraciliary ridges, and a strong glabellar eminence overhang moderately deep supranasal excavations. The same postlambdoid elevation we noticed in skull No. 1, also occurs in the present skull. The maxillaries and large portions of the facial bones are broken away.

The lower jaw is large and powerful. The coronoid process less elevated than in No. 1. The molar teeth in place exhibit the forms characteristic in European teeth.

Mr. ROBERTS stated that he brought the skulls and the bones on the table from Peterborough, and that they were collected from a number of others which had been thrown out. Among the human remains there was a specimen of a jaw-bone, in an exceedingly fine condition, discovered in digging in a stable at Wribbenhall, but how it came there he had no idea.

The PRESIDENT observed that the whole of the collection of bones and implements had been presented to the Society through the influence of their very zealous member Mr. Roberts.

On the Alleged Introduction of Syphilis from the New World. Also some notes on the Local and Imported Diseases into America. By WM. BOLLAERT, F.A.S.L., Cor. Mem. Univ. Chile; of the Amer. Ethno. Soc.; of the Ethno. Soc., London, &c.

IN 1825, when at Buenos Ayres, and observing that both gonorrhœa or blennorrhagia, and syphilis* were very common among the white and mixed portion of the population, I made inquiries as to whether these diseases were met with among the Indians of that country. I was informed, as far as was known on this point, the Indians were free from them.

In the autumn of the same year I was weather-bound in Nassau Bay, just behind Cape Horn. The Indians there were nearly naked, a few only having a little piece of seal-skin over the shoulders; and although there were signs that foreign shipping (as sealers and whalers) had been thereabouts, I saw no indication of either disease.

The latter end of the year I arrived at the port of Valparaiso, where there are certain localities called "Tops," the residence of the prostitute population, frequented by sailors of all nations, and there could be no doubt that syphilis and gonorrhœa were rife. I then travelled about the central portion of Chile, but did not learn that the Peons, or labouring population (Mestizos) were afflicted with either disease. For some years I resided in Peru, and visited Bolivia, but heard of no cases amongst those Indians, who lived distant from the whites, mestizos, or mulattos. However, among the whites and mixed breeds the diseases were very common.

In coming from Peru to Chile by land, along the shores of the desert of Atacama in 1829-30, I met some Indian families known as Changos; I did not notice the disease amongst them. I went then among the Araucano Indians, and neither saw nor heard that they were so afflicted.

In 1831, I was for some weeks in the Straits of Magellan, and had good opportunities of examining both sexes, when I observed what appeared to me to be syphilitic sores (chancres) among some of the women, and gonorrhœa among some of the men. I had no doubt that they had contracted these diseases from the crews of sealers and whalers who visited this portion of the continent; and it was a well known fact that Indian women had often been stolen away by said

* A medical friend gives me the following. "The true etymology of many of the words used in describing some of the forms of venereal disease is somewhat obscure, e.g. the origin of the word *syphilis* is uncertain; but I venture to suggest, under correction, that it might be derived from the Greek word *συφίλος*—a slough, or cast-off skin, also the wrinkled skin of an old man (or from *σιφλος*, unclear). If this be so, it points to the constitutional nature of the malady. *Chancre* is from the French, which in turn is from the Greek *καρκος*, or cancer, alluding to the primary and external disease. Blennorrhagia is from *βλεννα*, mucus, and *ρῆμα*, to flow. Gonorrhœa is from *γόνι*, semen, and *ρῆμα*, to flow, and I should suspect has, in its pure sense, a reference to gleet, in the chronic form of the poison."

whalers and sealers, kept on board for a time, when doubtless the diseases had been communicated to them by Europeans.

In 1840-2, when in Texas, I visited many tribes of Indians of that country, as well as remnants of tribes which had fled from the United States, but observed neither disease among them. In 1854-5 I was again in South America, and neither saw nor heard of the disease among the pure Indians. Whilst amongst the white people and mixed breeds, particularly in the cities and larger towns, syphilis and gonorrhœa were very common.

So far my own experience as regards South and a portion of North America.

I will now briefly allude to some historical accounts on this subject, particularly as regards the Old World. In the Aphorisms of Hippocrates, 400 B.C., and in the Sentences of Celsus, 400 years after Hippocrates, as found in Sprengell's translations, in 1708. When Sprengell alludes to his own added Aphorisms "On the French disease," he says, it was just known to former more temperate ages; and, in a note, how far it was known in former ages, he refers to *Ecclesiasticus*, c. 19, v. 2, 3. Hippocrates, III.; *Epidemics*, iii., 41, 74, 59, and i. *De Morbus Mulierum*, 127. Galen, lib. iv.; *Meth.* c. 5, and lib. i. *De Gener.*, c. 23; lib. iii. *Epidemics*, sec. 3, com. 25. Pliny *Nat.*, lib. 26, c. i. Avicenna, lib. 2. Valesius; Rhodius; Vigornius, *Lib. de Morb. Gall.*, c. &c. And that it does not, according to the vulgar opinion, derive its origin from Naples, France, East or West Indies. Josephus, c. xi., p. 108, says, when on the subject of purification, that Moses ordered those who had gonorrhœa should not come into the city.

We hear of syphilis, or that it began to be very prevalent or made public in Europe in the latter years of the fifteenth century. The idea has been thrown out in our own time that it might have been long previously known in a milder form. It is said there was ground for believing that syphilis was brought into western Europe on the return of the crusaders. There were seven crusades to the Holy Land from 1099 to the reign of Edward I, about 1272.

In Dr. Simpson's valuable *Memoir* regarding the appearance of syphilis in Scotland, in the fifteenth and sixteenth centuries (see *Trans. Epidemiological Soc. London*, 1862) he alludes to Peter Pinctor's assertion that syphilis was well known in 1483. Now, if this were so, added to what we know about a contagious disease known in very early times as the *Morbus Mulierum*, then the bringing of the disease from America on the return of Columbus in his first voyage, which was in March, 1493, just ten years after the period mentioned by Peter Pinctor, must I think be given up by those who have merely supposed that syphilis was originally brought from the New World by the Spanish discoverers.

Fulgosi, in his Gruner's *Aphrodisiacus*, p. 115, gives 1492 as the date of its general appearance in Europe, which is a year before the discovery of the New World. It was, about 1493, generally thought that the diseases had sprung up spontaneously and endemically in Italy, France, and Spain. If, however, in 1494-5, it was distinctly

recognised in Italy during the invasion of that country by Charles VIII of France, which was scarcely two years after Columbus returned from his first voyage from the West Indies. Charles VIII returned to France in May, 1495, and syphilis, it is mentioned, was generally disseminated on the march home by his troops, composed of his own people, Swiss, German, and Flemish auxiliaries.

I will now refer to Irving's *Life of Columbus*, composed from the very best materials. At vol. 1, p. 103, when describing the Indians of Hispaniola in his first voyage, Columbus says, "they are contented with such simple diet, whereby health is preserved and disease avoided." Columbus brought six Indians with him to Europe, where he arrived in March, 1493, but nothing is mentioned as to their being in any way diseased. He left Spain on his second voyage in September, 1493, arriving at the fort of Navidad, where he had left a small party of Spaniards with orders to be kind to the Indians and ingratiate themselves with them. The reverse took place; many of the Spaniards were of the lowest sort and of most sensual character. They stole away Indian women, forcing them to live with them in the fort; this so irritated the Indians that the fort was besieged and attacked, and all the Spaniards were most probably got rid of.*

Columbus abandoned this locality and proceeded to found the city of Isabella, when his followers suffered much from the climate and fevers; this was in March, 1494, for which period Irving observes that many Spaniards suffered also under the torments of a disease hitherto unknown to them, the scourge as was supposed of their licentious intercourse with the Indian females; but the origin of which, whether American or European, has been a subject of great dispute." Here we have but a *supposition*, and my firm impression is, that had either of the diseases been known to the Indians, the Spaniards, who were very good chroniclers, would have given some details. We now come to the latter part of 1494, when Pedro Margarite and others ran away from Isabella to Spain. "Some ascribed his abrupt departure to the fear of a severe military investigation of his conduct;

* I will here advert to a singular story, told me lately by Herr —, consul for a foreign power to Mexico, as connected with a friend of his, who died at Orizaba. His friend had exposed himself to contagion with a Quarterona. A few hours afterwards the member began to swell, causing excruciating pain; at the extremity there was a crown or ruff of various colours. Herr — went for a doctor, who, on examining the patient, said that he must have been with the said Quarterona, who had communicated the same to three or four others, and they had died; that it was his opinion that his present patient would share the same fate—the individual did die in a few days. The Quarterona was arrested and sent to a house of incurables; as to her fate there is no information. Herr — informed me that this class of venereal is called the *cristalina*, or crystallised syphilis; that a few similar cases had occurred in the city of Mexico; and that something of the sort had formerly been known in Cadiz. He also gave me the following as the supposed origin of this *cristalina*. In 1493, Columbus, ere he left the West Indies to bring to Europe the news of his discovery of the New World, erected the fort of Navidad in Hispaniola, leaving some of his followers there. On his return from Spain, he found that the whole of them had been killed or had died. It is said that some of them were affected with syphilis brought from Spain, and gave the disease to the Indian women with whom they had lived, and from these sprung the *cristalina*, which I think to be very doubtful.

others to his having, in the course of his licentious amours, contracted a malady at that time new and unknown (?), and which he attributed to the climate, and hoped to cure it by medical assistance in Spain."

Let us suppose that Margarite was afflicted with syphilis, there is no evidence that he had contracted it from the Indian female as a disease natural to the country. If he took the disease from an Indian woman, she had, in all probability, been inoculated by a diseased Spaniard; but it is far more probable, if he had syphilis, that he had contracted it in Europe, or from some of his own countrywomen in the colony.

We come now to 1497, when an edict was issued about syphilis at Aberdeen as a disease that came out of France and other strange parts. It was also called the sickness of Naples, the gor, gore, and grangore, a contagious plague afflicting male and female. The terms gore and grangore are of French origin, as—*verole*, small pox, *grande verole*, large pox or syphilis.*

In 1500 we find syphilis called in Scotland pokes and Spanyie pockis; but it was generally denominated the French disease. Italians, Germans, and English spoke of it as the disease of Naples. The Dutch, Flemings, Portuguese, and Moors as the Spanish malady; and the Spaniards to this day call it Galico or French disease; but we never hear it quoted as the American disease.

Gonorrhœa was in full vigour in London in 1430, and known as clap or brenning, and its existence spoken of a century earlier, in the time of Richard II.

There can be no doubt that syphilis existed extensively at Naples, and was brought into Western Europe with the return of Charles VIII from that country in May 1495. I may here observe that when Columbus returned to Europe from the New World in May 1493, there is no allusion at that date that syphilis was brought from America. When Sir. R. Alcock was asked by a friend of mine as to the existence of syphilis in Japan, he said it was known as the Portuguese disease, and was common there.

However, as regards the New World, history gives no evidence as to the disease having been brought from there, and the non-existence of both of the diseases amongst those Indians at the present time removed from proximity to the whites and mixed breeds is, to me, a still more convincing proof that syphilis, as it has been well known before and since the end of the 15th century, is not of New World origin.

Benzoni, who was very early in the West Indies and in Peru with Pizarro, speaks of the *Morbus Gallicus*, or French disease. Solazano, *Monarquia Indiana*, lib. i, c. 4, p. 24, says it is most doubtful and uncertain that the venereal disease was introduced from the Old

* See Des Divinités Génératrices ou du culte du Phallus, par J. A. D., Paris, 1805, p. 291. "On nommait au 15ème siècle, les courtisanes élégantes, gores (gore, a sow), gaures ou gaurières, et les robes decoltées (low-bodied dresses), robes à la grante gore; c'est pourquoi un prédicateur célèbre par ses buffonneries, frère Maillard, s'écrie souvent contre les bourgeoises qui portent des robes à la grant gore."

World into the New. He calls syphilis "the French or Bubatic." Frezier in 1719-14, in alluding to the hospitals in Lima, mentions San Lazaro for the cure of lepers and such as have venereal distemper.

About 1742, the Ulloas, who were very close observers, being at Lima, thus allude to syphilis: "The venereal disease is equally common in Peru, as in those countries we have already mentioned" (they had just come from New Granada and Quito); "it is, indeed, general in all that part of America; and but little attention is given to it until arrived to a great height, the general custom in all those parts." As to the Indians, he says, i, p. 420: "Though the venereal disease is so common in the country (amongst the Spaniards and mixed breeds), it is seldom known among them (the Indians), and, when observed, has been communicated by the whites or Mestizoes."

Describing Quito, the Ulloas say: "The venereal disease is here so common, that few persons are free from it; and many are afflicted with it without any of its external symptoms. Even little children, incapable by their age of having contracted it actively, have been known to have been attacked in the same manner by it as persons who have acquired it by their debauchery. Accordingly, there is no reason for caution in concealing this distemper, its commonness effacing the disgrace that in other countries attends it. The principal cause of its prevalence is negligence in the cure. Few are salivated for it, or will undergo the trouble of a radical cure."

When first in South America, I was astonished to hear females say (sometimes rather in confidence) of any of their male acquaintances who complained of being unwell, there being no visible sign of illness—"pues es galiquente, y quizas de sus padres", he has been syphilised, perhaps, from his parents.

Velasco, in his excellent *Historia de Quito*, i, 185, says, when speaking of the Indians of that country, "Amongst other diseases, they are free from venereal, which is falsely attributed to them, but brought to the country by the Europeans."

Speaking of the Creeks and Cherokees in the United States, Bartram, who wrote in 1790 (*Amer. Ethno. Soc. Trans.*, 43, 1853), observes that they have the venereal in some of its stages. In some places it is scarcely known, and in none rises to that virulency which we call small-pox, unless sometimes amongst the white traders, who themselves say, as well as the Indians, that it might be eradicated if the white traders did not carry it with them to the natives when they return with their merchandize; these contract the disorder before they set off, and it generally becomes virulent by the time they arrive, when they apply to the Indian doctors to get themselves cured. "I am inclined," says Bartram, "to believe that this disease originated in America (?) from the variety of remedies found among the Indians, all of which are vegetable. I have imagined that the disease is more prevalent as well as more malignant among the northern tribes, because of their closer proximity to the whites. The vegetables are, various species of iris, croton, or stylingra or the yaw-weed, smilax, bignonia, and lobelia syphilitica."

In Wilcocke's *Buenos Ayres*, p. 412: "The syphilitic disease,

though very common amongst the inhabitants of the Spanish race, is seldom known among the Indians, and then only when communicated by the foreigner."

Stevenson, in his *Travels in South America*, i, 405, remarks: "With what certainty the origin of syphilis has been traced to America, I know not; but the wild tribes of Arauco (Chile), Archidona and the Napo (Peru), those of Darien (New Granada), and several others, as well as those who live in small settlements among the Spaniards, are totally unacquainted with it; and, although I have been particularly inquisitive on this head, I never could hear of a solitary instance of the disease, except in large towns and cities, and then it was limited to a certain class (prostitutes), where it was likely to be most prevalent."

I now come to a recent writer on subjects connected with the New World, who has again brought the subject of the existence of syphilis in America to our notice, and that it existed there at an ancient date.

In vol. i, p. 181, *Hist. des Nations Civilisées du Mexique*, par l'Abbé B. de Bourbourg, in detailing the legend of the deification of Nanhuatl, he says: "He is there with the others, but he is sick, he suffers from a terrible and incurable disease; there is nothing now to attach him to life, the joys of which he has drained . . . he throws himself into the flames, and is instantly burnt to ashes." In a note it is stated, "that the disease above mentioned was the *American syphilis*, which is somewhat different from that of Europe. Original and numerous documents, in the languages of those countries, have proved to us convincingly the existence of this disease in America before its discovery by Columbus."

Upon so important a subject, I should have thought that reference would have been made to these "original and numerous documents"; for without them, that the sickness of Nanhuatl was the "American syphilis", may be very much questioned.

At p. 182 of the same work, the abbé says: "Strange aberration of the human mind! That which was most revolting concerning this deity, the most revolting of matter, to be clothed so mysteriously; the symbols of grandeur and majesty, and the words which express the most infectious corruption of the human body, has even to this day, among a multitude of Indian nations, an analogous state, as that of the most elevated power." This is a most extraordinary paragraph. Had it had to do with phallic worship, we might have understood the affair. However, in a note, a far more extraordinary position of things appears; it is as follows: "In all the Spanish translations of the history of Nanhuatl, he is continually called by the name of 'Buboso', which the abbé translates 'syphilitic'. This struck me as rather strange, and I have investigated what I believe to be the true meaning of the word buboso in this case; namely, that it merely comes from the Spanish word buba, a pustule, and that buboso has been applied to the syphilitic swellings in the glands known as buboes, but that this bubo of the aboriginal Mexican Indian was an ordinary pustule or tumour, and not syphilis. The abbé proceeds, having once persuaded himself that this buboso means syphilitic, 'The word *puz*,

which signifies the foul and corrupted matter of this disease, in the tzendal and in the otzile, becomes a verb to signify the sacrifice, and especially that of human victims; it means, also, to enchant, to perform miracles, or prodigies. *Puz-nawcal*, means enchanter, the great and marvellous man, etc. *Galel-ahpop* is a princely title, and *galel-ya* is a syphilitic. *Xogahuah* means princess, and *tantel yoghuah* literally means, she made herself a princess, as well as 'exit ex ea syphilis'. *Tepeu* means great syphilis, or he who has a great deal of it; *gawal tepegal*, divine, or the greatest majesty." After this rather hyper-philological dissertation—to me of very little value—the abbé proceeds: "Or is it, that the Spanish ecclesiastics in their catechism, being ignorant of the origin of these words, employed them to express the most sacred things of our religion, in the Quiché and Cakchiquél?" It would take a volume to write all on such matters, so multiplied and varied are they. We have to apologise to our readers for this strange note; but the circumstances have appeared so curious to us, that we have thought it our duty to lay it before the eyes of the learned.*

In a paper by Professor Owen to the British Association, on the Andamans or Mincopies, long isolated from any other people, Dr. Jebb said: "I never met with any one of them affected with gonorrhœa, syphilis, intermittent fever, itch, piles, small-pox, goitre, or other disease."

In 1831, I became acquainted with Mr. Beale, a surgeon, who subsequently wrote the *History of the Sperm Whale*. At p. 375 of that work, he says, speaking of Tahiti: "But if Mars had afflicted them so sorely, Venus herself had been less kind than her consort; their intercourse with foreigners had left their diseases, that were depopulating the islands; men, women, and even little children in arms, were suffering from this worst of Pandora's gifts, for the cure or alleviation of which they possessed neither knowledge nor means." At the period I speak of, I had long communications with him on the subject of the depopulation of many of the islands in the South Seas;

* I have lately had the subject of phallic worship in the New World brought to my notice. My impression had been that it was unknown to the Red Man. However, in a work entitled "Des Divinités Génératrices ou du culte du Phallus", already alluded to, it is mentioned as existing, "dans quelques parties de l'Amérique. Lorsque les Espagnoles firent la découverte de cette partie du monde, ils trouvèrent ce culte établi chez les Mexicaines." I find that this information is obtained from a work written by a gentleman who was with Cortes, who says: "In certain countries, particularly at Panuco, on the northern coast of Mexico, the Phallus is worshipped (il membro che portano fra la gambe), and they keep in their temples."

The Abbé B. de Bourbourg supposes the Phallic worship to have existed among the Alligewas, Algonquins, and Iroquois; and there is good reason to believe that something connected with this worship has lately been observed among the Mandans. As far as I have at present examined this matter as regards South America, I have not as yet made out the existence of this worship there. Some of the older Spanish writers on the New World speak occasionally of the reported commission of unnatural crimes by the Indians, but about which the evidence is not at all clear. I have seen a few examples of indecent execution in pottery from South America, but of a natural character only.

when he gave me a copy of his pamphlet on the matter, in which he positively states that the diseases had been communicated to the islanders by the whalers and sealers; and he proposed to the philanthropists of his day to send to the said islands a number of young medical men to do their best to cure or arrest these dreadful scourges; that these were the proper sort of men to improve the natives; that they (the surgeons) would explore the islands, make collections of natural history, to be sent home to our museums, and in this way repay in some measure the expense incurred. Mr. Beale's appeal was in vain. Missionaries only have been sent from England and the United States to the "heathen", but no medical men to cure the loathsome diseases contracted from the white man.

As a medical curiosity in connection with this subject, I translate from the *Mercurio Peruano*, No. 323, 6th February, 1794, published in Lima. It is headed, "Publication of a Receipt by Royal Order, with a Note by the Señor Oidor." "In publishing this receipt, we should give our most cordial and reverent gratitude to the King of Spain our Lord, who is not unmindful, amongst his heavy troubles, of having a care for the health of his happy and so tenderly beloved vassals. The receipt sent will be dear to us, seeing that the various experiments made are most satisfactory, so that the Sovereign has ordered it to be published in his remote dominions.—ROYAL ORDER.

"Excellent Señor,—I remit to Y. E., by order of the King, the accompanying receipt, used by the Honorary Commissary of War, Don Rafael Ramos, Comptroller of the Military Hospital of New Orleans; its advantages are well known for the cure of rheumatism, *venereal*, and scorbutics, so that the faculty of surgeons under Y. E.'s care may pay every attention to its use. God protect Y. E.—Palace, 22 July, 1793. Alange—to the Lord Viceroy of Peru.

"Instruction how to make the tincture:—Take 11 pints of good white wine, and macerate for three days; zarzaparrilla 3 oz.; holy wood 3 oz.; zarzafras 3 oz.; senna 4 oz.; harmodatil 3 oz.; tartar emetic 4 gr.; hearts of pino 1 oz."

"In the commencement, the tincture was only used in venereal cases, but it is now extended to scorbutic rheumatisms, humoral fluxion of the eyes, linfaticos oserosos in any portion of the body, to clean the kidneys, urethra, and bladder, or the impurities therein, taking away sand and even small calculi, useful in gout. Then venereal ulcers or gonorrhœa, exostosis (probably nodes), and other symptoms in the texture of the solid portions that have suffered, or have suffered alteration or disunion, the cure is not so rapid."

When I went to South America in 1825, a French quack medicine called *pantamagogo* was the rage; it was taken for every mortal disease, *venereal* included. I examined it, and it appeared to be a highly drastic tincture. With the arrival of European medical men, *pantamagogo* and some other quack rubbish were abandoned; still, many American and French patent medicines are patronised.

ON LOCAL AND IMPORTED DISEASES IN AMERICA.—*Mexico*.—Torquemada says in lib. vii., c. 29, to one of the deities were attributed diseases, as "small pox, swellings, abscesses, itch, and bad

eyes." As to small pox, there may possibly have been an indigenous variety; but that which has much assisted to thin off the red men, say from a hundred millions to ten or twelve millions, was the European. Las Casas calculated that, in the first forty years after the discovery of America, twelve to fifteen millions of the natives had been destroyed by the Spaniards, *i.e.*, by war and its results, and disease. As to the introduction of small-pox into the New World, it is on record that as early as 1520 Narvaez, who joined Cortez with his fleet, had with him a negro who had the disease. It spread rapidly in that part of Mexico, when numberless Indians fell victims. Maxiixa, the chief of Tlascala, took it and died, as did also Cuiclahua, the successor of Montezuma. Prescott observes that the small-pox at that time "was sweeping over the land like fire over the prairies—the natives perished in heaps, and that the small-pox was *not* known before the arrival of the Spaniards." As early as 1515 this disease had begun to thin off the natives of the West Indies.

Pests, or epidemics, are spoken of by various authors as depopulating the country before and after the conquest. We know nothing of the symptoms of the visitations before the conquest. However, to this day, independent of the indigenous intermittent fevers in the some localities, there are bad bilious fevers on the Pacific coast, and yellow fevers running into black vomit on the Atlantic, particularly about Vera Cruz.

These intermittent, bilious, and yellow fevers are traced in a northerly direction along the coast of Texas into the Southern States of North America. I took the yellow fever at New Orleans, for which large doses of calomel were given. In Texas for intermittent fever, I took quinine in pretty large quantities and was bled; but to get rid of this last fever I had to seek a change of climate.

Texas.—In 1840-2 I explored a great portion of this country. On the coast, in the Autumn, the bilious would rapidly change into yellow fever, carrying off its victims. A hundred miles or more in the interior I have personally experienced bad intermittent fevers, but farther westward, and where the land is more elevated, the country is healthy. Indians of the interior going to the coast easily catch the fever.

B. de Bourboug (ii. vol. of his *Histoire du Mexique*, 596) says, "about 1464, Mayapan, in Yucatan, was destroyed by civil wars. After a period of great abundance came a famine, when multitudes of animals died and putrified; this was succeeded by a peste or epidemic, which commenced the depopulation of the peninsula of Yucatan. And in vol. iii, p. 497, he speaks of Tlalocan, a sort of terrestrial paradise for those who had died by lightning, or drowned, the lepers, the syphilitics, the itchy, gouty, etc. The warriors who had died on the field of battle were taken up amongst the stars." As to the list of diseases, they are, I conceive, of Spanish origin, and not Indian.

New Granada.—What Ulloa wrote years since, applies in a great measure to the present time. The climate, particularly of the coast, is very hot with much rain. The complexion of the people is livid, and the young are mostly affected by disease.

The first disease is called Chapetonada (in allusion to the name of Chapeton given to the old Spaniards) and fatal to very many Europeans; the attack lasts three or four days, when the patient rallies or dies; this is the local yellow fever, and when in its most malignant state is the black vomit.

The residents are subject to leprosy, which is by some attributed to eating large quantities of pork. Lepers are allowed to marry, and in this way the disease is perpetuated. They are confined within certain limits, but allowed to go out begging.

The itch and tetter (a cutaneous disease) are common; an earth called maqumaqi is used as a remedy. There is a singular disease called *cobrilla*, or little snake, it is a tumour of a bad sort. Spasms and convulsions are common, and oftentimes fatal.

At Porto Bello in particular, foreigners fall victims to the climate. It was a common opinion that parturition at Porto Bello was so dangerous among the European women that they generally died in child-bed; so that when three or four months in pregnancy they were sent to Panamá. European animals were so much affected by the climate that they scarcely bred. This Porto Bello has been and is still the hot bed of epidemics and mortal distempers with black vomit of a bad sort, and which made great havoc on one occasion, in 1726, to a British fleet.

Quito.—Malignant spotted fevers and pleurisies are common in this country, and when they present themselves, say in the capital, generally sweep away large numbers, indeed they are pestilential contagions. The *mal de vicho* was considered by Jussieu as gangrene of the rectum and not uncommon; those who laboured under flux were most liable to the malady. There is no canine madness in the city of Quito.

The people of this country are subject to a distemper unknown in Europe, and may be compared to the small-pox (?) which few or none escape; it is called *peste*, its symptoms are convulsions, a continual endeavour to bite, delirium, vomiting of blood and is oftentimes fatal. This *peste* is not peculiar to Quito, but has been observed in other parts of South America. At Guayaquil, the principal port, during the winter months, there is much intermittent fever, yellow fever occasionally. The natives are subject to diseases of the eye and cataract. The Indians very much dread the visitation of the European small-pox, which comes about every seven or eight years, when it makes very great havoc. They have also *mal del bicho*, or, as called by them, sickness of the valleys. *Tabardillo*, or spotted fever, they have also, and cure in a very rough manner. Of late, whooping-cough or *Tos de perro*, dog's-cough, and measles of a bad sort, imported I conceive, have afflicted the Indians in this region, as well as in the north of Peru.

Indians of the mountains in going to the coast catch tercianas, or intermittent fevers; those of the coast who go to the high lands, suffer from cold and get inflammation of the lungs.

Velasco, in his *Historia de Quito* (iii, 66), alludes to the epidemics or *pestes*. There was one that visited nearly the whole of South

America about the end of 1589. It commenced at Carthagena, travelling south to Quito; in the capital 30,000 died out of 80,000. It is of this that Helps (*Spanish Conq. in America*, iv, p. 84) adverts to and quotes Lozano, *His. of Paraguay*. The epidemic was first noticed in Carthagena in 1588, and it passed over all South America to the Straits of Magellan. It was much more fatal to the natives than the Spaniards. The Indian children were so struck down by the epidemic that not one out of a hundred escaped with life. The Indians offered no mental resistance to the ravages of this disease, which seems to have resembled the diphtheria of modern times. In Lozano's words: "Cerrabanseles las fauces de manera, que ni daban passo de lo interior al aliento, feneciendo la miserable vida entre las congojas del ahogo." Their throats became closed up, and in such a manner that no sustenance could pass, thus ending their miserable lives in the horrors of choking.

In 1645 Quito was visited by another peste called alformbrilla (St. Anthony's fire?) and garotilla (quinsey): 11,000 died of it in the city of Quito. Again, in 1759, there was another; of this Velasco, the historian, suffered. It was a sudden and violent fever, and severe head-ache, with the paleness of death, and great prostration; about one in a thousand of the Spaniards died of those who could obtain medical assistance, but 10,000 of the Indians who lived in the city perished. There was a fourth in 1785, a complication of diseases, including small-pox; in five months from 20 to 25,000 died of it in the city of Quito and its vicinity.

In 1560 Potosi was visited by a peste, many dying after only twenty-four hours illness. It appeared again the following year. In 1684 there were great droughts and a deadly plague in Peru. Ulloa ii, p. 91 94, *Voyages to South America*, has some curious observations on the "distempers" of Lima, which cannot in any way be congenial to health or the maintenance of a vigorous population even of the whites, to say nothing of some of the mixed breeds. The distempers most common to Lima are malignant, intermittent, and catarrhus fevers, pleurisies and constipations; and these rage continually in the city. The visitation of the small-pox in Quito as well as here is not annual, though when it prevails great numbers are swept off. Convulsions are common (unknown in Quito, but known in Carthagena) of the partial, malignant and arched, of which he gives a fearful account. Cancer in the womb is most common, most painful, very contagious, and almost incurable. Slow or hectic fevers are common in this country and likewise contagious.

Chile.—This is probably one of the best climates in America. However, the capital, situated at 1540 feet above the level of the sea, and under the great Andes, would be called by us rather severe, for in summer it is very hot during the day, and cold at night. It is subject to a malady known there as chavalongo, which is a putrid typhus fever, being very often fatal. It appears after the first autumnal rains and is caused by miasma. Tisis, or calentura, is not uncommon; when attacking the young it is called consumption, and older people, decline.

Brazil.—When I first visited the coast of this country in 1831 I

found it very hot, not unhealthy, but with occasional bilious fevers. However, some years afterwards yellow fever made its appearance, supposed to have come from the West Indies, and has continued at intervals. Cholera also visited Brazil.

The *Guayanas and Venezuela* have their share of intermittent, bilious, and occasionally a little yellow fever.

Climate.—The reason why great groups of humanity, as the whites, blacks, orientals, and red men of the New World enjoy general good health in their own country, is that each group has its own climate, and that their organisation is peculiarly fitted for the satisfactory assimilation of the air they breathe, the food they eat, and other personal arrangements. However, when the white man goes to the country of the black or oriental, he soon discovers they are not congenial to him, to say nothing of the local diseases new and oftentimes fatal to him. Take the negro from his tropical lands to high northern or southern latitudes, he declines and dies before his time. Take the red man away from America, he soon pines, particularly in the climate of Europe; he is prone to European diseases, as small-pox, measles, hooping-cough, etc.; he might do better in Polynesia and India on the score of climate, but he must have no laborious occupation. Then what is the conclusion we are to arrive at? Namely, that each great section of mankind thrives only in their own particular climate; take them to another and the result is unsatisfactory.

IDIOTCY AMONG INDIANS.—I do not recollect having ever seen or heard of idiocy or insanity among the Indians, either in North or South America. There is, on the other hand, idiocy among the white descendants of the conquerors, and in some cities more than others, insanity is observed.

Mr. Reddie stated in his paper to this Society on *Anthropological Desiderata*, read in February last, that idiocy was unknown among the negroes of Africa.

The *PRESIDENT*, in proposing the thanks of the meeting to Mr. Bollaert, observed that the subject of the paper was one of great importance. It was Mr. Bollaert's opinion that there was no trustworthy evidence to prove that syphilis had been introduced into Europe from the New World. For his own part, he was not satisfied with the evidence brought forward, and he thought that further evidence ought to be sought for and adduced, not only with regard to the introduction of syphilis but to some other contagious diseases. The question was not to be settled by the authorities of ancient writers, but he conceived that much light might be thrown on it by archaeological discoveries. In no ancient skull that he was aware of had there been found any trace of syphilis, but it was easily discoverable in many modern skulls, the bone of the skull or the teeth being more or less affected by the disease. The question appeared to be in a very unsatisfactory state. They could form no judgment respecting it from the statements of old authors that had been brought forward, and he thought they must leave the matter to be elucidated by further discovery. They might, perhaps, arrive at some satisfactory result by the examination of an-

cient skulls, for if marks of the disease could be found on skulls of persons who died before the discovery of America, such evidence would be conclusive. In the examination of most modern skulls of soldiers it had been ascertained that there was scarcely one skull of men who died in the army that was not affected by syphilis, and some were in a frightful state. Even some of the beautifully white prepared skulls on the table, which had been presented to the Society by Professor Hyrtl, showed marks of the disease. The President inquired whether any member then present knew of any ancient skull that had indications of syphilis.

Mr. CARTER BLAKE stated that about two years ago a skull was submitted to him, which was absurdly alleged to be the skull of Richard III, but it proved to be the skull of a female, and exhibited symptoms of having been affected with syphilis. The skull was said to have been associated with bones of the extinct *Bos primigenius*, but that sort of evidence was of a very doubtful kind. That was the only skull of reputed antiquity in which he had observed traces of syphilis.

Mr. St. CLAIR observed, in reference to the contradictory statements of the origin of the disease—Europeans and Americans reciprocally asserting that it was derived from the other—that it might probably have sprung from the mixture of people very dissimilar to each other. If that were so, the contradictory evidence mentioned in the paper might be reconciled; otherwise it seemed impossible to understand how those contradictory reports could have arisen.

Mr. PIKE said there was one hypothesis of the origin of the disease which had not been suggested. It was well known that the alchemists of the middle ages introduced mercurial remedies in medical practice as cures for many diseases. Basil Valentine was one of those who had introduced such remedies. It seemed very possible, therefore, that the severe symptoms of syphilis which became known about the period of the discovery of the New World might have resulted from the application of those strong remedies. Persons afflicted with the disease aggravated by that mode of treatment, might attribute it to importation from America; the disease being in fact generated by uncleanly habits and by the use of mercury combined. Typhus was said to have been generated in a similar manner, and to have been afterwards communicated; and he thought that syphilis might have originated and been communicated in the same way.

Dr. TURLÉ thought that few medical men would adopt the idea that the application of mercury could have been the cause of syphilis. There could be no doubt, indeed, that mercury greatly aggravated the symptoms, but it could not have produced them. There was unquestionably a greater preponderance of the disease in modern times than in former periods, which would to some degree countenance the opinion that it had been introduced from America; but he thought it could scarcely be doubted that it existed in Europe before the discovery of the New World.

Sir CHARLES NICHOLSON noticed the supposed traditions among the Indians which it was conceived indicated the existence of the disease among them. As regarded the Mexicans, it might be observed

that as they possessed no written language, no importance could be attached to any such statement respecting them. It was asserted that they practised phallic worship, and that that worship was connected with the disease of syphilis. He was not aware, however, that there was any evidence to prove the existence of phallic worship among the Indians of South America. One argument in support of the opinion that the disease first assumed a specific character at the end of the 15th century was, that no indication of it was to be found in the literature of the East, which it might be assumed would have been the case had the disease been known. The phallic worship among the Hindoos was not of the sensual character commonly supposed. It was connected with profound philosophy, and really meant nothing sensual, but was symbolic of the great generative powers of Nature. He thought that if syphilis had existed among the Hindoos it would have been symbolised in their works, which gave minute particulars of every subject. So far as he was aware, there was no description in their writings before the period of the discovery of America, to indicate clearly any knowledge of the disease. With respect to Australia, he said, it had made frightful havoc in that country, and the rapid disappearance of the native inhabitants had been attributed partly to that cause. With regard, however, to the extinction of aboriginal races, he observed that there was another cause in operation which tended more effectually to produce that effect. The women were generally less numerous than the men; that was particularly the case among all the islands of the South Pacific, and in all parts of the world so circumstanced the original races were dying out and would soon become extinct. The real cause of it is, that where there is a great disparity of the sexes, and the women are much less numerous than the men, virtual prostitution exists, and the consequences are unfertility and extinction of race.

Mr. WITT said he could not perceive much connection between phallic worship and syphilis; but the existence of that worship in South America and in Central America he thought was proved by Count de Walder, who gave details of its practice there and representations of phallic images.

M. BOLLAERT mentioned that there is a disease peculiar to Quito, and that idiocy is not known among the aboriginal races of North or of South America.

Mr. REDDIE inquired what evidence there was of the non-existence of idiocy among the Indians of America. If that were proved to be the case, he thought it possible that the absence of idiots might be accounted for by supposing that the infants were destroyed when idiotic. That was the practice among the Greeks, or at least, was recommended by them. The facts on the subject were very meagre.

Mr. BOLLAERT stated, in reply, that he was not aware that the Indians destroyed any of their children.

Dr. TURLE asked whether any true case of plague had been known in South America.

Mr. BOLLAERT said he thought not.

The PRESIDENT then announced the papers to be read on the 31st inst., and the meeting adjourned.

MAY 31ST, 1864.

GEORGE WITT, Esq., F.R.S., IN THE CHAIR.

THE CHAIRMAN regretted to state that the serious illness of their President, Dr. Hunt, prevented him from being present, and that they would not, consequently, have his paper read as had been announced, and on which considerable discussion had been expected.

The minutes of the preceding meeting were read and confirmed.

The following presents were acknowledged: Bulletins de la Société d'Anthropologie de Paris, from the Society; casts of three Basque skulls, from the cemetery of Z—— (Guipuscoa), and casts of three skulls, from the cavern of Orrouy (Oise), Bronze Age, presented by the Paris Society of Anthropology.

The names of the following gentlemen, elected Fellows since the previous meeting, were then announced:—

The Rev. W. Selwyn; T. H. Wickes, Esq.; H. V. Crassweller, Esq.; T. J. Smith, Esq.; C. H. Gardner, Esq.; C. A. Du Val, Esq.; R. Austin, Esq.; H. B. Sheridan, Esq., M.P.; T. J. Dobson, Esq.; V. Ruskin, Esq.; J. Martin, Esq.; F. W. Aley, Esq.; W. J. Sharpe, Esq.; J. Thompson, Esq.; J. Parnell, Esq.; Sir Andrew Smith, C.B.; H. B. Riddell, Esq.; F. B. Montgomerie, Esq.; G. H. Ogston, Esq.; Alderman D. H. Stone; F. Thompson, Esq.; W. L. Scott, Esq.; A. Sanders, Esq.; The Right Rev. the Lord Bishop of St. David's; T. R. P. Shute, Esq.; J. Drummond, Esq.; P. Sharp, Esq.; C. Jellicoe, Esq.; J. Morris, Esq.; and W. T. Pritchard, Esq.

The CHAIRMAN stated that the Council had appointed Mr. Geo. E. Roberts as honorary secretary of the Society, in the place of Mr. Carter Blake, resigned, and that the Council considered themselves very fortunate in obtaining his valuable services for that office.

Extreme Hypertrophy of the Skull.

Dr. G. D. GIBB, M.A., LL.D., exhibited two calvaria from skulls enormously hypertrophied, from the museum of the Westminster Hospital. They were very remarkable skulls, and exhibited the effects of disease in a striking manner, producing extreme deformity from their great size and peculiar shape, of which he believed that the Neanderthal skull might probably be an example. Their general size, massive character, and weight were such as are rarely witnessed. They would astonish those persons not accustomed to witness the effects of disease on the cranium, and if they had been accidentally discovered imbedded in the earth, the impression might have been conveyed that they belonged to some new and distinct race of human beings. The experienced pathologist, however, would at once draw the line of distinction between them and healthy specimens. In one specimen, the brain must have been of the natural dimensions,

although the parietes of the skull had become greatly thickened, and the general weight nearly doubled; whilst in the other the bone was lighter, the walls equally thickened, and the cavity of the cranium encroached upon by the disease, and the brain evidently compressed in some parts. Dr. Gibb then read the following description of the heaviest calvarium, taken from the catalogue of the hospital museum: "Section of a skull, just above the crista galli. The thinnest part, near the anterior inferior angle of the parietal bone, is half an inch in thickness, the thickest, near the posterior inferior angle, is nine-tenths of an inch thick. There is no obvious distinction between the diploe and the inner and outer tables. The bone is of a uniform coarse texture, and possesses considerable hardness. The parietal fossæ are increased in depth; the frontal are diminished. The meningeal arterial grooves are very deep, and are here and there converted into canals by the joining of their edges. The openings of numerous veins are visible on the inner surface. No traces of any of the sutures remain either on the internal or external surface. The weight is not so great as its size and thickness would indicate, being only one pound eleven ounces and a half, whilst that of an ordinary skull sawn off at the same point is less by one pound." Dr. Gibb remarked that the foregoing account hardly did justice to the specimen; its extreme width was seven inches and a quarter; its antero-posterior length, eight inches; and its circumference, twenty-four inches and three-quarters; and, when the skull was uninjured, its great size, peculiar form, and singular aspect, must have invested it with considerable interest; he regretted much that the entire skull had not been preserved. Dr. Gibb further said, that his chief object in bringing these skulls before the notice of the Society, was to have it placed on record that there were such remarkable instances of hypertrophied skulls in existence; for if similar specimens were discovered hereafter, and it was not known that such an abnormal state was owing to disease, it might occasion some perplexity. He produced another specimen, which was the entire skull of a female greatly diseased with syphilis. The outer surface, and the interior also, were much corroded, producing perforations, and here and there the bone was almost transparent. The sutures had become blended together. Dr. Gibb observed, that it was of importance, when paying attention to the natural history of man, that the anthropologist should not be unaware of the effects of disease in producing peculiarities, of which the skulls he had exhibited were examples.

Mr. HOLTHOUSE said, in reference to one of the skulls from the museum of Westminster Hospital, that there was no history connected with it. All that was known was, that it belonged to Mr. Lynn, who was accustomed to use it as an illustrative specimen in his lectures. Microscopical examination had detected that the original skull was inside the bony mass, and that the thickness of the skull was caused by osseous deposit on both sides, the original bone occupying the centre. It had evidently been formed by a morbid process, and not by healthy accretion. He had reason to believe that this skull was once the property of John Hunter.

Mr. MACKENZIE inquired whether Dr. Gibb had known the case of the female, whose skull he had exhibited, in life, and was then aware that the bony structure was destroyed? It would be interesting to have an absolute specimen of the effects on the skull produced by a known disease. He thought it would be desirable that a microscopical examination should be made of the skull, to see the character of the disintegration that had taken place.

Dr. GIBB replied that he had seen the case during life, and that the female was in a most fearful state of disease. There were ulcers over the skull, and the bone had become exposed. Some of the ulcers, he had no doubt, penetrated the skull, and openings can now be seen penetrating it. She had lost the bones of her nose; and the case was so remarkable, that he had adopted means to obtain the skeleton after death for examination. He stated further, in reply to Mr. Mackenzie, that the woman had been dead about eighteen years. He said he intended to submit the other skulls to a careful inspection, and would endeavour to complete a model of the larger and most peculiar one, and, if his efforts were successful, he should have casts made of it, and would present one to the Society, to be placed in their museum.

The following papers were then read:—

On a Jaw from Buildwas Abbey, Co. Salop. By GEO. E. ROBERTS, Esq., Hon. Sec. A.S.L., and C. CARTER BLAKE, F.G.S., F.A.S.L.

The line of the Severn Valley railway cut through the burial ground of the monks who tenanted Buildwas Abbey, near Broseley. The jaw exhibited was obtained by Mr. Roberts on the spot, during the cutting. No remains of coffins were found, although the number of human bones thrown out was not inconsiderable.

This jaw is that of a powerful young man. The condyle is large; and the coronoid process has the same abnormal forward curve of its anterior border, as is noticed by Professor Owen in his paper on the Andaman islander's skeleton* (*British Association Reports*, 1861), which is not unusual in English lower jaws. Only the first and second molars are in place. The number of cusps accord with those in typical European jaws.

Mr. ROBERTS said he was in Shropshire at the time the railway cutting was being made, and then found the jaw bone which was on the table. It appeared to possess some characters that were not very common, and he brought it away to place it in the Society's museum.

Mr. C. CARTER BLAKE observed, that the specimen which Mr. Roberts had presented to the Society was a very curious jaw; and it repeated the peculiarity in its formation, on which Professor Owen laid stress, in the paper he read at the meeting of the British Association in 1861. The same abnormal form of the coronoid process

* "The lower jaw shows a variety in the shape of the coronoid process which is occasionally seen in Europeans; it is broader and lower than usual; the front border is more convex at its upper half, and forms with the concave lower part a deeper and more decided sigmoid curve." (Owen, *loc. cit.*)

was repeated, and it tended to confirm the theory—he might almost call it the law—that these so-called abnormalities become more common the further our examinations are extended, and that, in reality, there are very few abnormal formations, strictly considered. This specimen was another instance, that what appears to be abnormal on a limited examination, is found to be common when the investigations are extended.

Mr. MACKENZIE drew attention to the fact, that the enamel of the teeth was perfectly preserved after an interment of about 600 years; and he desired to know the nature of the soil in which the bodies had been buried.

Mr. ROBERTS stated that the date of the jaw was about the year 1280, and that the bodies had been buried in gravel. He saw about six or seven different skeletons; but they were so much decomposed, that he could not get more than the jaw, which he now produced, and a few bones.

Mr. MACKENZIE further observed, that in the skeletons of some of the men killed in Cromwell's battles, though of a much more recent date, the teeth were all decayed.

Mr. C. CARTER BLAKE said, that the state of preservation in which skeletons were found depended on the nature of the substance in which the bodies had been deposited. In the human remains found in peat, the enamel was always well preserved.

The thanks of the meeting having been given to Mr. Roberts and to Mr. C. Carter Blake, the following paper was read:—

On Human Remains from Kent's Hole, near Torquay. By C. CARTER BLAKE, F.G.S., F.A.S.L., Foreign Associate of the Anthropological Society of Paris.

SOME time ago, Mr. William Davies, of the British Museum, to whom I am indebted for many suggestions relating to the specimens in that collection, called my attention to a few remains from the classically celebrated cave of Kent's Hole, which had been obtained by purchase from a dealer named Heggerty, and which had been passed over by many observers on the subject. I shall, with the Society's permission, give a list of these objects, with a few descriptive notes.

1. Left humerus, covered on one side with thin layer of stalagmite, charged with carbonate of iron.

2. Left ulna, exhibiting traces, but in less degree, of stalagmitic deposit; the bone is worn very thin in middle, where it has been gnawed by mice, or other small rodents.

3. Axis and six fragments of cervical vertebrae.

4. Right ramus of the inferior mandible of an aged individual; no teeth are in place. Sockets, however, exist, indicating the spots where *i* 1, *i* 2 on right side, *i* 1 on left side, canine on right side, and *p* 1 and *p* 2 right side have been. Alveolar absorption operating for a long period of time before death, has removed all traces of the true molar series. The body of the jaw is consequently very thin immediately below this part, a flattened depression, as is usual in aged individuals, scooping backwards a cavity, which obliterating

nearly every trace of alveolus, has ascended the inner side of the coronoid process. The tip and a great part of this process has been broken away, but sufficient remains to show that it was during adult life strong and powerful, extending well forward in front of an imaginary vertical line drawn from the posterior edge of the third molar tooth. Concomitant with the alveolar absorption, and the other traces of age, bony deposit has extended across the sigmoid notch, rendering that depression even more shallow than it would appear from the evident slenderness of the condyle, which also has been broken away. The depressions for the attachment of muscles are well marked, especially that for the *masseter*, which is so well developed, that the external angular process, for the attachment of that muscle, is prominently developed outwards and upwards into a tuberculous elevation of bony matter.

Turning to the inner side of the jaw, we find that the same conditions prevail. The inferior dental foramen is deep; its attendant mylohyoid groove well marked. The asperity for the attachment of the entopterygoid muscle is well marked, without however producing anything approaching to that inflexion of the inner margin, which forms so striking a feature in the jaw from Moulin-Quignon. In fact, all the curvature of the jaw in this part brings the most salient portion of the inferior margin outwards, not inwards, in such manner as to make the convex surface be inwards, the concave outwards, this conformation being produced by the great depression for the *masseter* muscle, and elevation of the angle. The obliquity of the ramus, which would otherwise have been very great, is thus by the minor development of the pterygoid process, compared with the same part in the Moulin-Quignon jaw, reduced to a great extent. I append a few measurements of the jaw.

	ins.
Length of mandible, from tuber maxillare, to angle	3.6
Height of ascending ramus (tips of condyle and coronoid being broken away)	2.45
Length of dental series from mesial incisive line to posterior edge of second premolar	1.25
Distance from mental foramen to mesial incisive line	1.12
Height of jaw between front incisors	1.5
Ditto at presumed spot of second molar	0.8

5. Four fragments of cranial bones. The conditions under which the above bones seem to have been deposited are, according to my interpretation, that they have lain loosely on the floor of the cave, where they have become coated with small portions of stalagmite, without being imbedded in that substance. On comparison of their mineral conditions with those of the remains of *Felis spelæa*, *Ursus spelæus*, *Hyæna spelæa*, and the other animals so commonly found under the stalagmite in the same locality, I have been struck with the entire dissimilarity which prevails. Although very little animal substance remains in the human remains, yet on comparing them with those of *Hyæna* from the same cave, the characteristically red infiltration is present on both.

The conclusion I wish to draw is, that no high antiquity can be

assigned to the remains I have just described; I nevertheless have felt bound to investigate them, as the occurrence of human remains, with the frequently described works of art from the same locality, would be of the highest interest, should any such hereafter be discovered.

Mr. ROBERTS said, that about four years ago the sum of £450 was granted by the Royal Society for the complete examination and clearing out of Kent's Hole, and a committee was appointed for the purpose; but owing to the gentlemen who composed it residing so far from the spot, and to other circumstances, they did not do much towards the accomplishment of the desired object. The chief thing they did was to discover about twenty flint implements in the mud of the cave, the whole of which were in his possession. He was afraid that nothing else was done by that committee; but he thought it very desirable that the cave which contained so many interesting objects should be cleared out, and that all the bones and flint implements, and other objects associated with them, should be collected and properly arranged.

On Human Remains from a Bone Cave in Brazil. By C. CARTER BLAKE, F.G.S., F.A.S.L., Foreign Associate of the Anthropological Society of Paris.

IN the British Museum there exist some human remains purchased with the Claussen collection, and forming part of the series of specimens which were discovered by Lund and Claussen in their investigations in Eastern Brazil.

Mr. W. Davies having kindly drawn my attention to them, I will give a short list of the specimens, without wishing to draw any further conclusion than that they probably belong to a period of great historical antiquity, although probably not coeval with the fossil fauna which Lund has described in the *Transactions* of various northern academies.

1. Skull of young child. This skull is brachycephalic and asymmetrical, the right side being shorter than the left. There are evident traces of "parietooccipital" flattening, which has extended above the lambdoid and for a well defined space on either side of the sagittal suture. None of the sutures are complex. Flattening on the left side of the frontal bone is manifest, indicating the direction in which the compressing force has been exercised throughout life. No other abnormal development is visible. The molar and premolar teeth in place show little signs of erosion. The basioccipito-sphenoid suture having been present, the basioccipital bone has been broken away, as well as the right border of the foramen magnum and the right squamosal bone. The maxilla is slightly prognathic. The skull presents the most similarity to the skulls from Cañete, in Peru, described by Castelnau, and to some which I have seen from the uplands of the Argentine provinces, near Rosario.

2. Broken maxillary (adult?) left side. The first premolar, as well as the broken fragment of the second premolar, are the only teeth which remain. Slight erosion is visible on the crown of the first tooth.

3. Lower mandible, left ramus. Thickly incrustated with limonite and sand, which has filled up the alveoli. Only the first and second molars are in place, the second being turned out of its proper insertion, as well as the first being much worn. Both the molar teeth in place are much worn on the outer side of the teeth. All the other teeth, with the exception of the first premolar, are absent. No marked outward or inward inflection of the angle is present.

4. Lower mandible, left ramus. This specimen exhibits the same general characters as No. 3, with the exception that the incrustation of limonite is not present. On the inner sides of *m. 3* and *m. 2*, the upper angles of the cusps have been broken away, the whole surface of the teeth being much worn. *M. 1* is much worn, and a small fracture of the alveolar process outside it has permitted that the two upper fangs to be elevated and dislocated from their own proper insertions, and to form by this dislocation a grinding surface. The first and second premolars, as well as the canine and first incisor, are also much worn. The mental process of the jaw is high; the genial tubercles distinct; and the mental foramen, not as in No. 3, filled up with limonite. The coronoid process is high; and, although the angle is broken away, enough remains to lead us to conjecture that it was strong and powerful.

5. Portions of parietal bones of average thickness, incrustated with ochreous mud.

6. Upper part of supraoccipital bone, and lower and posterior portions of two parietals, exhibiting the confluence of the sagittal and lambdoid sutures. The supraoccipital bone is slightly elevated above the level of the lambdoid suture, which, as well as the sagittal, is very complex. There are no traces of wormian ossifications; and on the inner side of the bone the sutures are perfectly closed.

7. Broken glabella and fragments of nasals, as well as a piece of the supraciliary arch of a young individual; frontal sinuses small.

8. Distal portion and shaft of humerus, gnawn by mice and by some larger rodent; thickly permeated by limonite.

9. Distal portion and shaft of humerus; young or small individual; no marks of teeth.

10. Proximal end of tibia, very young individual, wanting epiphyses; slightly gnawn by rodents.

11. Shaft of femur; much gnawn by rodents.

12. Proximal end of femur, including head and neck, and part of shaft, of young individual; gnawn by mice (*Hesperomys*).

13. Distal end of femur, exhibiting frequent marks of the teeth of some rodent, probably one of the small mice (*Hesperomys*) of the caves, slightly infiltrated with ochreous mud, and with much of the animal matter absent.

14. Tibia, long fragment of shaft; few traces of rodent action.

The following three specimens are in the same condition as the fragments of the lower jaw, No. 3, above alluded to.

15. Long bone (small humerus?) imbedded in limonite, which contains many fragments of fossil shells, exceedingly difficult of identification. A specimen of *Planorbis* (of which fresh-water type four

existing species in Brazil are recorded by Mr. S. P. Woodward in his *Manual of Mollusca*) is recognisable, as well as the broken fragments of an elongated land-snail, probably *Bulimus*.

16. Sections of three long bones, covered with sandy deposit containing large quantities of oxide of iron (limonite); the medullary cavity of the bones being filled with crystals of carbonate of lime.

17. Distal end of femur, thickly encrusted with limonite, the animal matter being absent

18. Head of humerus, covered with limonite.

Mr. ROBERTS stated, that he had received a letter from a friend who had been inspecting the works now going on in the isle of Portland for the purpose of national defence, who stated that several ancient cists had been discovered there. In one of them was a skeleton buried in a sitting posture; and in the same cist were the bones of a dog, some bones of a deer, twenty-three flint flakes, and a quantity of charcoal. His friend said he hoped to obtain them, and send them to the Society. This was, he believed, the best known instance of the discovery of the skeleton of one of the ancient hunters of this country buried with his dog, his implements of chase, and with some meal for his support, in the manner now practised by the North-American Indians.

Mr. C. CARTER BLAKE regretted that the specimens were thrown together in such a manner, that there was no positive evidence of the association of the human remains with those of the ancient fossil rodents, etc., described by Messrs. Lund and Claussen as having been found in other bone caves in Brazil. These remains were, no doubt, very ancient, but there was no positive evidence that they were of the same age as the fossil fauna; and in absence of further evidence, it would be rash to hazard a conjecture respecting them. In reference to the evidence of great antiquity afforded by the human remains found in bone caves, there was a great principle involved in the question whether those remains were found below or above the stalagmite of the caves. It was owing to the suggestion and assistance of Mr. Davies, that he had been enabled to lay the facts before the meeting. In the cave at Brixham, there were discovered flint implements mingled with the bones of extinct animals; but in Kent's Hole human remains were discovered; and it was most important to ascertain whether they belonged to the same period as the extinct animals. Unfortunately, no distinct evidence could be obtained respecting the exact positions in which the bones were found, as they had been purchased from dealers. It was the first instance of human remains having been discovered in Kent's Hole, and they were encrusted with stalagmite, which might have proved their great antiquity. He hoped the members present would not be silent when such important evidence was laid before them.

The CHAIRMAN (Mr. G. Witt) observed, that the papers which had been read, though very interesting, were not, perhaps, calculated to produce much discussion. They would be very valuable when recorded in the Journal of the Society.

The meeting then adjourned to the 14th inst.

TUESDAY, JUNE 14TH, 1864.

DR. JAMES HUNT, PRESIDENT, IN THE CHAIR.

THE minutes of the previous meeting were read and confirmed.

The names of the Fellows elected since the last meeting were read as under—Sir John Benn Walsh, Bart., M.P.; John Ashbury, Esq.; William Smith, Esq.; Charles Tuckett, jun., Esq.; H. Driver, Esq.; F. Fearon, Esq.; S. Smith Travers, Esq.; O. F. Waterfield, Esq.; John Mortimer, Esq.; The Rev. S. Beal, Chaplain Royal Maine Artillery; Edward Peacock, Esq., F.S.A.; A. Norman Tate, Esq., F.C.S.; J. B. Mirrlees, Esq.

Local Secretaries—Richard Lee, Esq., F.A.S.L., Bradford; George T. Hine, Esq., Brisbane, Queensland; Charles Linder, Esq., Labrador; Commander Bedford Pim, R.N., Nicaragua.

Mr. HIGGINS also announced the deaths of Professor Waitz, and of Professor Rudolph Wagner, who were Hon. Fellows of the Society.

The PRESIDENT stated that the Council had that day unanimously elected Mr. Charles Carter Blake, F.G.S., as Curator, Librarian, and Assistant-Secretary of the Society.

Mr. HIGGINS then read the following communication from Dr. Paul Broca, who had contributed to the Society's museum six casts of the skulls referred to in his paper.

To the President of the Anthropological Society of London.

Paris, May 20th, 1864.

MR. PRESIDENT,—I beg you will be so good as to offer in my name to the Society over which you preside six plaster casts, representing, 1. Three Basque crania obtained from the cemetery of Z—— (Guipuscoa). 2. Three crania from the grave in the cavern of Orrouy (Bronze age). I hope that the Anthropological Society of London will be good enough to accept this present as some evidence of my gratitude for the favours which it has heaped upon me. I feel called upon to add some information respecting these crania. Their history will be found in the *Bulletins* of the Paris Anthropological Society; viz., that of the Basque crania, vol. iii, p. 503 to 579, and vol. iv, p. 33 to 72; and that of the crania from Orrouy, vol. iv, p. 510, 512, and vol. v, p. 56.

The three specimens which I have chosen from the sixty Basque crania which I have deposited in our museum, represent the two cranial types of the Basques of the village of Z——. No. 24 is the most brachycephalic of the series; this form is entirely exceptional; of the sixty crania, the cephalic index of which is between 80 and 81 per cent., five of which the index is between 81 and 82 per cent., one between 82 and 83 per cent., and lastly one the index

of which amounts to 83; it is the latter which bears the number 24, and of which I send you a cast. In order to comprehend the bearing of this fact, it will suffice to remember that amongst the three hundred and eighty-four Parisian skulls in our museum, there are eighty-two of which the index is comprised between 80 and 83, and seventy-four between 83 and 92. If we make use of the division which I established three years ago (*Bulletins*, vol. ii, p. 507), we perceive that there is not one truly brachycephalous skull amongst the sixty derived from Z—, the truly brachycephali being those of which the index exceeds 85. The twelve skulls of which the index is comprised between 80 and 83 are merely sub-brachycephali, if we employ the division which I originated and published more than a year before we possessed Basque skulls. Amongst the sixty skulls from Z—, there are only two which sufficiently approach to the brachycephalous form to be considered as brachycephali.

The two other Basque skulls which I send you are Nos. 21 and 39, representing the dolichocephalous type, which considerably predominates in the population of Z—. These are not the most dolichocephalic of the series; their index is about 74, and there are some of which the index is so low as 71. But I have chosen these two skulls, because they represented the most common type. Amongst our sixty crania, there are at least thirty which resemble them considerably.

If I may be allowed to express a wish, I should ask you to indicate on the labels of these Basque skulls that No. 24 presents a brachycephalic form entirely exceptional amongst the inhabitants of Z—. Those who visit your museum should on no account be led to believe that the population of Z— comprises one brachycephale in every three individuals, whereas in reality the proportion is that of one to thirty.

I have not been able to select as I could have wished the specimens of skulls from the sepulchral cave of Orrouy (Bronze age). Many of these skulls, which I should have chosen in preference, are sufficiently complete to be measured, but not sufficiently so to be cast from. Those which could be more or less measured number sixteen, and there are five others which are too incomplete to be exactly measured. Amongst these twenty-six skulls, there are three true dolichocephali, of which the index is confined between 71 and 75; two subdolichocephali, between 75 and 77·7; four mesaticephali, between 77·7 and 80; five subbrachycephali, between 80 and 85; and finally, two true brachycephali, of which the index is 85 or beyond.

No. 4, which I send you, is mesaticephalic, 79·7; No. 8 is subbrachycephalic, 81·5; finally, No. 11 is brachycephalic, 85·3 per cent.

The dolichocephalic crania have not been cast, and the same is the case with the most brachycephalic skull of the series, of which the index is so much as 87.

I shall call your attention to No. 8, which presents the most common form in the Orrouy sepulchre. This skull, unfortunately deprived of the facial bones, is remarkable for the smallness of the forehead, for the enormous development of the parietal regions, and above all for

the considerable flattening which exists on each side on the level of the temporo-parietal suture. When this singular form is examined, the first idea which arises in the mind is, that it was due to pathological causes; but it is reproduced in eight of the Orrouy skulls; there is even one skull in which it is more distinguishable than it is in No. 8. This lateral flattening does not appear to me to be due to artificial deformation, as it coincides with a number of characters, and especially with the narrowness of the forehead, which evidently appears not to have been caused by a pressure exercised on the posterior portions of the head. I do not venture, however, to allege that it is a race character, but if it is not a race character, it is certainly one peculiar to a family, and transmitted hereditarily during some generations. What leads me to incline towards this hypothesis, is that, in the Orrouy grave, there were to be found a large number of humeri pierced through at the fossa of the olecranon. Unfortunately, the complete humeri alone have been preserved; they number thirty-two, and eight of these are naturally pierced with a large foramen. This perforation is very rare in the existing or past races of Europe. I have only found it five times amongst more than a thousand humeri, which I have extracted, with the assistance of M. de Roucy, from the large Merovingian sepulture of Chelles (Oise). Mr. Barnard Davis writes to me that he has not observed it in any humerus from the stone or bronze periods which he has examined at my request in one of the richest collections in England. It only exists in two of the humeri of the stone age, which I have extracted from the long barrow of Chamant (Oise), and which number about fifty; I, however, entertain doubts as to one of these humeri, in which the hole is not perfectly regular. The proportion of eight perforated humeri amongst the thirty-two from Orrouy is consequently most extraordinary; but, up to the present time, nothing sanctions the supposition that this is a character of one of the ancient races of Gaul; it is exceedingly probable that it was a character or perhaps an abnormality which had become hereditary in a family, or in a small tribe, similar to the premature bifurcation of the humeral artery in a little German village, referred to by Tiedemann. And if this is the case, the supposition is not unwarrantable that this singular form, which is so frequent amongst the Orrouy skulls, is also a family character.

I have written with a pen on each of the six skulls their internal capacity, expressed in cubic centimetres. The other measures can be taken on the plaster moulds; and I shall here offer to you a general remark on this subject.

The plaster casts swell in volume as they harden, and this is the reason why moulders are accustomed to bind round their matrix with many twists of firm rope. It is probable that if they wait some days before they withdraw the mould from the matrix dilatation will not be produced. But, to gain time, they remove the mould before it is sufficiently solid to resist, and dilatation consequently takes place, as it is not obviated by the application of external pressure. It results that, in all the casts which I was able to compare with the originals, the principal diameters are augmented about two millimètres; the

horizontal circumference is augmented to six, or even to eight or ten millimètres, and the others in proportion. That which is most inconvenient is the fact that the amplitude of this dilatation is not uniform. It varies according to the more or less fineness of the plaster, according to its degree of purity, according as to whether it is soaked to a greater or less extent in water; secondly, according to whether the mould is hollow or empty, and whether the bed of plaster is more or less thick. This cause of error, which is already very considerable, is further aggravated when we recast from the first mould in such a manner, that if we take many successive castings, as are made when exchanges take place from one museum to another, the volume and even the form of the skulls can be considerably modified; I say the form, because it is improbable that dilatation could be absolutely regular in every sense.

I have thought it right to add to the casts which I send you a table of the principal measures taken on the actual skull. I propose to take this step every time I shall have to send casts either to you or to other museums. And I shall take the liberty of calling the attention of craniologists to this point. It appears to me that in future it will be right to adopt as a rule the practice of sending tables of measurements with casts. It will not be necessary to give in these tables all the measures. It will be sufficient to take the principal diameters and the longest curves. They will enable those who examine the casts to obtain afterwards proportional reductions of the exact value of the other measures.

There are seven measures on the table. 1. *The maximum antero-posterior diameter*, from the glabellar eminence to the most receding part of the *squama occipitis*. 2. *The maximum transverse diameter*, taken from the point which gives the greatest divarication between the compass-points. This point may be on the parietal, on the temporal, or on the lower or posterior angle of the parietal. 3. *The minimum frontal diameter*, taken at the lower part of the frontal bone, above the external orbital processes. 4. *The basilo-bregmatic diameter*, measured by placing one of the compass-points on the centre of the anterior border of the occipital foramen, and the other extremity on the bregma, *i. e.*, on the median point of the coronal suture. 5. *The great median occipito-frontal curve*, measured from the root of the nose (naso-frontal suture) to the posterior border of the foramen magnum, passing by the bregma, the sagittal suture, and the external occipital protuberance. 6. *The maximum horizontal circumference*, representing the greatest capacity of the hat. 7. *The bi-auricular transverse circumference*, measured with the aid of a tape, which passes transversely under the *basis cranii* which passes next on each side opposite the *meatus auditorius externus*, and which then passes over the bregma.

I have thought it right, M. le Président, to submit to you these various explanations to assure you of the exactitude of the cranio-metrical observation which can be made on the casts I send to the Anthropological Society of London. The details into which I have entered have perhaps the fault of being too long and too minute.

Perhaps you will excuse this when you remember that the questions which I have suggested do not merely concern the present skulls, and will arise every time that exchanges of casts take place between our two societies or between any two museums.

Receive, M. le Président, the expression of my devoted and respectful sentiments. (Signed) P. BROCA.

Dimensions of six cranial casts sent by M. Broca to the Anthropological Society of London compared with the dimensions of the original skulls.

The measurements are expressed in millimetres.	BASQUE CRANIA FROM Z—.						CRANIA FROM ORROUT.					
	No. 24.		No. 21.		No. 39.		No. 4.		No. 8.		No. 11.	
	Skull.	Cast.	Skull.	Cast.	Skull.	Cast.	Skull.	Cast.	Skull.	Cast.	Skull.	Cast.
Maximum antero-posterior diameter	183	186	191	193	187	186	168	170	184	186	170	172
Maximum transverse diameter	153	155	142	144	137	138	134	136	150	151	145	146
Maximum frontal diameter	101	103	95	96	94	96	90	91	88	89	98	99
Basilo-bregmatic diameter	124	126	127	129	123	125	123	125	138	140	134	135
Great median occipito-frontal curve	369	374	376	382	370	375	346	350	380	384	358	362
Maximum horizontal circumference	539	545	527	535	527	533	487	491	533	539	500	507
Transverse bi-auricular circumference	450	458	432	439	422	428	410	415	457	462	445	448
Cephalic Index: the antero-posterior diameter being 100, the transverse diameter =	83.60		74.34		73.26		79.76		81.52		85.29	

The PRESIDENT said he had heard the communication from Dr. Broca with much satisfaction. That gentleman was the heart and soul of the Anthropological Society of Paris; and he hailed the paper with great pleasure, coming from such a source. The Basque skulls of which he had sent casts to the Society, were collected by Dr. Broca with great difficulty, and at the risk of the life of his friends; and these were reasons why he did not wish the place from which they had been obtained to be known. He had also incurred considerable expense in forwarding the casts to the Society, and they would form a valuable addition to their museum. The President hoped the meeting would return their hearty thanks to Dr. Broca for his contributions, and he trusted they would not be the last they should receive from him.

The thanks of the meeting were then unanimously given to Dr. Broca.

Mr. C. CARTER BLAKE remarked on the casts contributed by Dr. Broca that they were of two kinds, indicating different characteristics. The Basque skulls shewed that that people, instead of having, as had been sometimes described, beetling brows, and being otherwise allied to the skulls of the stone period in Denmark, and with affinity to the Laps and Fins, comprised individuals who were not different in any important respects from the skulls of the ancient, and, indeed, of the existing Celts. It was important to observe that, while the Basques, as a people, differ greatly in language and other characters from other nations, their skulls do not differ from those of many other persons of France and Spain, and the skulls of which the casts were on the table might, indeed, have been derived from an English grave-yard. But the skulls from the bone cave of Orrouy were very different. They belonged to an analogous series of skulls to that which had been derived from the peat beds and river beds in various parts of England. Similar skulls had been found under fifteen feet of gravel at Eastham, near the river Lea; they had been found at Battersea, in the bed of the Thames, in Cornwall, and in other places. They all agreed in many well defined characters. The crania of these river-beds differ in some respects. Further investigations were yet required into the characteristics of these river-bed skulls, and the time had not yet come when their characters could be definitely laid before the Society. No satisfactory generalisation could yet be arrived at to determine whether they belonged to the stone, the bronze, or to the iron period.

Mr. HIGGINS asked Mr. Carter Blake whether he agreed in opinion that the skulls derived from this bone cave represent a family character, and whether the olecranal perforation had been ever observed in river-bed skeletons?

Mr. C. CARTER BLAKE, in reply, observed, that he feared there was a poor story to be told about the skeletons from the river-beds. In these instances there was nothing like the perforation of the olecranal fossa. He agreed that the same character was probably common to the people or family who had inhabited the cave and buried their relatives there. With respect to the perforation alluded to, he did not think it so rare as Dr. Broca appeared to do. In a publication by M. Hollard, about five years ago, many similar instances were noted, and many similar ones had been found by Mr. Blake himself. It had been thought that the perforation repeated a character that existed in the lower animals, but there was no tendency to perforation of the humerus in the animals most closely allied to man.

The following paper was then read:—

The Negro in relation to Civilised Society. By S. E. B. BOUVERIE
PUSEY, Esq., F.A.S.L., F.E.S.

THE paper I purpose to read is intended to establish the proposition, that the negro (in whatever other respect he may, or may not, differ from the white man) does at any rate resemble him in this, that the only state in which he can attain his full development is one of freedom, as opposed to slavery; and by slavery, I do not mean only that condition called chattel slavery, in which the bondsman has no rights. This (as has been well observed before in this room) exists in a pure form only in Africa.

All the slave codes in existence amongst nations having any claim to civilisation, attempt to confer rights on the slave, though the extent of these rights, and the means by which they are to be enforced, are in most cases miserably inadequate. However, I am not here to discuss the merits of particular slave codes, but to compare slavery at its best with freedom in a civilised country, as applied to the negro.

By slavery, I mean any condition in which an adult is placed (without reference to his own will), at the disposal of another. The abolitionists of slavery feel that they are espousing the generous side of the question; they feel that it is æsthetically to be desired that beings so like ourselves as the negroes are, should also, like ourselves, be best in freedom. But the question is not to be decided on any such grounds.

I have no intention of entering here, unless incidentally, on the problem how far the intelligence of the negro may extend, further than that it is such as to qualify him for personal freedom. I shall not discuss, *e. g.*, whether the negro race is likely to produce men of genius, or is capable of founding by itself a society possessing European civilisation, or, as was suggested in a paper read before this Society, of evolving a peculiar civilisation of its own. I intend to lay before the Society this evening the grounds on which I have been led to believe that the negro possesses sufficient intelligence and industry to qualify him for the place of a freeman in a civilised community.

I shall consider:

1. The condition of the negroes in the British West Indies.
2. Their condition in slave countries (the West Indies prior to emancipation included).
3. The condition they have attained in parts of Africa.

It may be said that no man ought to be a slave who is not incapable of providing for himself and his family by voluntary industry. Let us examine by this standard the capabilities of the negro, beginning with the West Indies, because that is the quarter where the question has been most perplexed by contradictory assertions. The authorities on which I shall principally rely in relation to this matter are: *The Ordeal of Free Labour in the British West Indies*, by Wm. S. Sewell; and *The West Indies, their Social and Religious Condition*, by Edward Bean Underhill. The former writer is a Canadian, resident in New York; who travelled in the West Indies towards the end of 1859 and in the beginning of 1860, and published his work

originally in a series of letters to the *New York Times*. The book contains internal evidence of care, impartiality, and desire to get evidence from all sides. It derives additional authentication from the fact of having been reviewed, on the whole favourably, in the *Edinburgh Review* (January 1862), by a writer obviously an old resident in the West Indies, and by no means unfavourable to the planting interest.

Underhill was a Baptist missionary, who travelled in the West Indies at the request of the treasurer and committee of the Baptist Missionary Society, with the object chiefly of investigating the religious condition of the numerous Baptist churches in the West Indies, especially as that condition has been affected by the Act of Emancipation. I am perfectly aware how strong a presumption there is that a man with these objects would not write an accurate, much less an impartial, work. But I am confident that anyone who attentively, and with an unbiassed mind, reads the book, will be convinced that the work is not only accurate and impartial in the ordinary sense, but written with rare judicial care and fairness. Neither of these writers can be classed with what are called "Negrophilists" and "The Black Party," and neither shows the least tendency to introduce any kind of maudlin sentimentality into his treatment of the subject.

I will try to condense the results I have arrived at from these authorities, as to the condition of the negro in each of the British West Indian Islands, beginning with Barbadoes.

It is admitted even by Trollope, who may be regarded as the great authority of the anti-Negro party, that Barbadoes has not suffered since emancipation. In fact, we find (Sewell, page 62) that the average of sugar exportation from 1720 to 1800 was 23,000 hogsheads per annum; from 1800 to 1830, 20,000 hogsheads; showing a decline under slavery of 3,000 hogsheads: a decline attributed by some to the embarrassments of the planters, and by others to the cessation of the African slave trade. "Let us now look," says Sewell, "at the Barbadoes sugar exportations of the present day, premising with the observation, that from 1826 to 1830, the average weight of a hogshead of sugar was 12 cwt.; from 1830 to 1850, 14 cwt.; and is now from 15 to 16, or even 17 cwt. With this difference of weight *against* her, Barbadoes exported in 1852, 48,610 hogsheads; in 1853, 38,316; in 1854, 44,492; in 1855, 39,692; in 1856, 43,552; in 1857, 38,858; in 1858, 50,778, or nearly double what she exported during the most favourable year of slavery."* Sewell then passes in review the whole of the exports and imports of Barbadoes with similar results.

It may be asked whether any light can be thrown on the causes of this extraordinary prosperity of the sugar planters of Barbadoes, as compared with those of the other West Indian Islands. We must remember that in Barbadoes the land is as densely peopled as in the old countries of Europe (800 persons to the square mile), and that, therefore, the employer has the command of the labour market. This fact seems to offer a clue to the West Indian enigma, by suggesting

* This was written in 1859, and the export of 1858 was therefore the last to which the author could refer.

that the phenomena of the West Indian labour market depend, not so much on the characteristics of race, as on the most obvious laws of political economy. We all know that in a new country it is one of the greatest difficulties to obtain steady and continuous labour; for as soon as the labourer amasses a little money, he establishes himself as a small proprietor. Now in the United States, and in our own colonies, the vacuum thus created is perpetually being filled up by a fresh stream of immigration from Europe; but in the West Indies (as the white man either cannot live and work there, or thinks that he cannot, and therefore does not come), and the black cannot now be brought, this vacuum remains unfilled, except partially by Coolie immigration from India and China. This cause would alone be amply sufficient (even if there were no other) for what is commonly called the ruin of the West Indies, *i. e.*, the ruin of their principal planters, and the enormous diminution of their sugar and coffee exports. But we shall find there are many additional reasons which would contribute to that result, equally independent of ethnological considerations. These I shall consider by and bye.

In the small island of St. Lucia also, we find that the sugar exportation amounted, in 1857, to 6,261,875 lbs. against an average yearly export of from three to four millions prior to emancipation. And the exportation of cocoa during 1857 was 251,347 lbs. against 91,280 lbs. in former times. In this island the metairie system prevails, under which the landlord and tenants are partners both in the expenses and in the profits of cultivation. (Sewell, p. 93.) This instance of St. Lucia would seem to show that liberality and flexibility on the part of the owners of the estates may produce the same beneficial results to them as density of population.

Having spoken now of the only two islands on which the planters have not suffered, let us examine if there are any causes, unconnected with negro character, which would account for their misfortunes in the other islands. We shall find, on investigation, that the West Indian planters (as a body) were generous indeed, and hospitable, but violent, wrong-headed, unbusiness-like, and devoid of any flexibility in adapting themselves to circumstances, to a degree which has seldom been equalled.

1. They were nearly all non-resident, frequently understood little of the West Indies, and their cultivation; and were, therefore, in the hands of agents who had to be paid large salaries, and lay obviously under great temptations.

2. The business of sugar cultivation is one of a highly speculative character.

3. They were commonly extravagant.

4. As the natural result of these causes combined, they were mostly in debt.

5. Having begun with a system of slavery (unparalleled in its destructiveness to human life, except in Cuba) they strenuously resisted, and considered as intolerable oppression any attempt to extend the protection of the law to their slaves.

6. On the verge of emancipation, with the black population ex-

ceeding them in number as five to one, ready to break into insurrection at any moment, they had the insanity to meet the measures of the home government with words and acts bordering on high treason.

7. After emancipation they showed themselves totally ignorant of the nature of a contract. They said, and published to the world, that it was a great crime in the negroes not to work for a "fair" rate of remuneration, as if any man had not a right to stick out for as much wages as he could get.

8. All the results of these their faults were aggravated by the injustice done them in assigning them a compensation amounting only to about two-thirds of the real value of their slaves; we may conclude then, that the ruin of most of the planters is satisfactorily accounted for, without taking into account any differences there may be between the negro and the white man. In fact, if the negro had been as industrious as the Anglo-Saxon, they would certainly have been ruined a great deal faster, for he would more speedily and universally have passed from the condition of a labourer to that of a peasant proprietor or farmer.

As it is certain that in all the islands, except the two I have mentioned, the negro does not readily work for the planter, it becomes a question what does he do? Does he spend his time in idleness, or does he work for himself? This question can be sufficiently answered, chiefly from the authorities I have already mentioned. 1. A considerable number of them work steadily on the roads and in the mines. Sewell states (p. 284), "I sought information from the Chief Commissioner of Roads, who has 3,000 men under constant employment, and he assured me that they worked diligently for five days in the week, going to market after their custom on the sixth, or devoting it to the cultivation of their own grounds. He had no complaints to make of idleness, and instead of there being a deficiency of hands, he could obtain an additional thousand at any time he chose. The men, he said, preferred breaking stones on the road to estate labour, though the former was much the severer work of the two. I inquired further of the superintendent of the Rio Grande copper mines in the parish of Portland, an intelligent, practical, energetic Englishman, who, for eight years, has had a large body of men under his command. He told me that at first the planters ridiculed his idea of getting labour; nevertheless, in all his experience, he has not known what it was to want labour. If he stood in need of five men, fifteen or twenty would apply. These men worked eight hours a day, and for six days in the week; and though some of them had been in the superintendent's employ five or six years, he never had occasion to complain of their idleness."

The overseers on the roads explained to Sewell (page 194) that, in their opinion, the reason why the negroes would not work for the planters and would work for them, was that they paid their wages regularly every week, whilst the planters were generally in arrear, and frequently altogether defaulting.

The prosperity of the negro peasant proprietor in the parish of St. Ann, Jamaica, is shewn in the following passage of Sewell (p. 195):

1. "The district through which I have been travelling is composed entirely of pasture land. All the settlers own a horse and stock of some kind. Their cottages are very neat and tidy, and are shrouded with cocoas and plaintains."

2. It appears by the latest returns (?) that, out of 187,000 negroes engaged in agriculture, there are 50,000 proprietors, of whom all, except a few, have become such by their own unaided efforts.

3. These proprietors seem to own from one or two to five acres. Their labour as proprietors, and not slaves, has materially altered the nature of the industry of the country. I think you will perceive, from the following figures, that the fact is not that the industry of Jamaica has ceased or has been materially diminished, but has been diverted into other channels, which contribute to the prosperity of the negro proprietor, and not to that of the planter.

For instance, in the year 1841, there were exported of coffee 6,433,370 lbs.; and in 1858, 5,237,689 lbs., nearly a million less. But of pimenta, in 1841, there were exported 3,595,380 lbs.; and in 1858, 9,465,261 lbs., *i. e.*, more than six millions more. There is besides, now, a considerable yearly exportation of arrow-root, bees'-wax, honey, cocoa-nuts, and other things, of which there was no exportation whatever so lately as 1841. And what is not less instructive, the importation of all the principal necessities of life, of flour, bread, meal, corn, and pork, has most materially diminished.

What I have said of Jamaica applies equally to the other British West Indian islands. The change that has taken place in them is admirably expressed in the outset of a petition by the planters of Antigua to the home government for coolie emigration. They say (Sewell, 152), "We regard the withdrawal of a large number of the labouring population from the estates, either to engage in the cultivation of land purchased by themselves or to embark successfully in other avocations of life, as the natural consequence of an improved material condition, of the free and equal administration of the law, and of the facilities largely enjoyed for civil and religious instruction. But, while we acknowledge and sympathise with this abstraction, it is clear that a deficiency has been thus created in the supply of manual labour to an extent which is not to be compensated, either by increased skill, by implemental husbandry, or by the application of extended capital."

All these facts will be found fully confirmed in the more detailed account of Underhill; and the whole state of the case cannot be better given than in the words of the lieutenant-governor of Granada to the home government (Colonial Report for 1857, presented 9th August, 1859), page 81: "The growing independence of the native labourer, and his consequent secession from work on the estates, will soon create a void in the labour market which will render a stream of immigration necessary to keep up the cultivation of the staple product of the island. It is generally admitted that the African makes the most efficient labourer; but if he is not to be obtained, the Indian appears to be well qualified to take the place of the creole. It is a remarkable fact, alluded to by Mr. Cockburn, that, so far from the immigrant being regarded by the native labourer with jealousy, he is rather

viewed as one of the means destined to emancipate the latter from the necessity of offering his services for hire, and to enable him to become a cultivator of the soil for his own especial benefit. A proprietary body of considerable magnitude and importance has already risen from the labouring class, and several of its members are possessed of sufficient means to carry on beneficially agricultural pursuits."

The next point I shall endeavour to shew is that the negro, when a slave, works better in proportion as he is treated like a freeman; and that, in those slave countries in which he is not borne down by an overwhelming load of prejudice, he is able to hold a position alongside of his fellow men with credit to himself.

First I shall quote the important testimony of Frederic Law Olmsted, with respect to the slaves of North Carolina (*Journeys and Explorations in the Cotton Kingdom*. London, 1861, pages 146 and 151, vol. i.)

In the great dismal swamp, where Negro slaves are employed without driving, and under the stimulus of wages, Olmsted says, "They are more sprightly and straightforward in their manners and conversation than any field hand plantation negroes that I saw at the south. Two or three of their employers with whom I conversed spoke well of them as compared with other slaves, and made no complaints of rascality or laziness."

In the sounds and inlets of the North Carolina coast, where large shad and herring fisheries are carried on, many stumps of trees, standing where they grew, but now, on account of subsidence of the coast, submerged some way below the water, have to be removed from the fishing ground, on account of the injury they would do to the nets. All the more firmly fixed of these stumps have to be blasted, and negro divers are employed to charge with gunpowder cavities made in them, by driving a sort of long spear from a boat moored over the spot. Olmsted's informant employed several divers, all of them negroes. He thought he had removed over one thousand stumps, and used seventy kegs of powder. All the divers were skilful. Unusual skill or hardihood is rewarded with whiskey or (as while diving they are generally given as much whiskey as they want) with money. Each of them would, in this way, earn from a quarter of a dollar to half a dollar a day above the wages. "On this account," said Olmsted's informant, "the harder you put them to work the better they like it. They frequently had intermittent fever, but would rarely let it keep them out of their boats." Olmsted remarks how surprising this picture of slaves must appear, and accounts for it when he says "they are treated as freemen."

That this also held in the British West Indies under slavery is shewn by the evidence before a select committee of the House of Commons on Extinction of Slavery, held in the year 1832 (Report of Parliamentary Blue Book, 1832, p. 301, No. 4428, *et seq*).

Captain Charles Handen Williams was examined before this commission: He had formed an opinion from visiting the West Indies, that the condition of slavery was a happier condition than that of peasants elsewhere living in freedom. He thought slavery so much

better than the condition of English peasants, that there could be no comparison between them. Clearly, therefore, Captain Williams had no anti-slavery views in any opinion he expressed on the character of blacks. The slaves of Jamaica, he says, supply all the markets in the West Indies. They get six dollars a dozen for chickens, and supply also pigs and vegetables. They furnish large quantities to Kingston market. Some of them will have thirty dollars' worth of poultry and provisions at Kingston market in a morning. They rear them mostly on estates eight or ten miles from the town, either on their own little grounds, or on ground hired from their master, if they want to raise more than their own little grounds will produce. All is raised by their own voluntary labour. They sometimes buy their freedom in this way. An industrious slave, living within six or eight miles of Kingston, will buy his freedom in ten years. Some have luxuries in their houses, bought by the sale of their poultry and pigs.

Robert Scott was examined before the same commission. He had been a proprietor in the island of Jamaica, resident there from 1802 to 1806, and afterwards a few months in 1828 and 1829. He states that the drivers on the estates are selected, not for physical strength, but for good character, and for being men in whom confidence can be placed. The drivers are looked up to by the negroes. They are nearly all blacks and old infirm men (Mr. Scott continues); he has known drivers, and the best drivers. The slaves, he says, are better off than English people think. They get considerable sums by the sale of their poultry and hogs. Many of the field negroes do this. All have pigs and poultry, and, in some instances, cattle. Their industry is increased by the acquisition of property. "A slave with a good deal of property is the best and most easily managed."

James Beckford Wildman was examined. He was proprietor in Jamaica of an estate, with six hundred and forty negroes. He had been resident from the year 1826, two years and a half, and also in 1825. He considered the slaves "by no means inferior to the labouring classes of this country in natural intellect." They were astute in driving bargains, knew well the market price of commodities. He thought that under emancipation the negro would be unwilling to work, and gave three reasons for his belief—the climate, the natural indolence of the negro, and the fertility of the country. He had known the negroes, when employed for their own benefit, exhibit great intelligence and diligence. He had known them under these circumstances carry burdens greater than their masters would have attempted to impose on them, or they have submitted to. Mr. Wildman's attorney, Mr. Phillips, had, while overseer of the Camanas estate, set his people task work, and they then got through their day's work by two o'clock, and went to Kingston to spend the rest of the day in excess. The negro slaves do exert themselves, Mr. Wildman continues, to obtain comfort and advantage beyond necessities of subsistence.

In Brazil we find the same phenomena exhibited, as may be gathered from Wilkes (*United States Exploring Expedition*. Philadelphia, 1845), pp. 52 *et seq.* The negro slaves of Brazil he considers divisible into two classes, those from Northern, and those from Southern

Guinea; that the former are intelligent and industrious, can frequently write Arabic, and are formidable by their power of combination; and that the latter, though not stupid, are idle. But of those which he classes as belonging to Southern Guinea, one half, he says, are Benguelans, whom he characterises as steady, industrious, and intelligent, nearly equal to the Minas, or inhabitants of Northern Guinea.

He states of the freed negroes (it is chiefly the Minas who obtain their freedom), that "those who receive their freedom in reward for faithful services, or purchase it, conduct themselves well. Their descendants are much superior in point of intelligence. Many of them own slaves. There are some blacks who are priests, and others officers in the army."

The Minas come down to the river Congo, and the Benguelans resemble the Minas in character; therefore, we must infer that the remarks made by Wilkes on the negroes of what he calls Southern Guinea apply only to the Congo negro, not the stock from which the majority of slaves is derived.

And Wallace mentions (*Amazons and Rio Negro-Land*, 1853), page 113, the fact of a Congo negro (freed by his master) having saved enough to purchase two slaves and a little land, in terms which would seem to shew that such an incident is, amongst the negroes, not very unusual, and favourably contra-distinguishes them from the Indians.

To this testimony may be added the more explicit statements of Bates. He informs us that in the great insurrection of 1835 and 1836, which threatened Brazil with Mexican anarchy, "the rebels of Para and the Lower Amazons did not succeed in raising the natives of the Solimoens against the whites. A party of forty of them ascended the river for that purpose, but on arriving at Ega, instead of meeting with sympathisers, as in other places, they were surrounded by a small body of armed residents, and shot down without mercy. The military commandant of the time, who was the prime mover in this orderly resistance to anarchy, was a courageous and loyal negro, named José Patricio, an officer known throughout the Upper Amazons for his unflinching honesty and love of order, whose acquaintance I had the pleasure of making at S. Paulo in 1858."

Bates further speaks of a negro servant of his own in these terms. "I was quite surprised to find in Isidoro little or no trace of that baseness of character which I had read of as being the rule amongst negroes in a slave country . . . The first traits I observed in him were a certain degree of self-respect and a spirit of independence. These I found afterwards to be by no means rare qualities among the free negroes . . . There was nothing ridiculous about Isidoro. There was a gravity of demeanour and sense of propriety about him which would have been considered becoming in a serving-man in any country. . . . I had afterwards to number free negroes amongst my most esteemed friends; men of temperate quiet habits, desirous of mental and moral improvement, observant of the minor courtesies of life, and quite as trustworthy in more important matters as the whites and half-castes of the province."

"There was another visitor besides ourselves, a negro whom João

Trinidad introduced to me as his oldest and dearest friend, who had saved his life during the revolt of 1835; he was a free man, and had a "sitio" (farm) of his own situated about a day's journey from this. There was the same manly bearing about him which I had noticed with pleasure in many other free negroes; but his quiet earnest manner, and the thoughtful and benevolent expression of his countenance shewed him to be a superior man of his class. He told me he had been intimate with our host for thirty years, and that a wry word had never passed between them. . . . It was pleasing to notice the cordiality of feeling and respect for each other shewn by these two old men."

On page 397. In S. Paulo Bates found a companion and friend in the negro tailor of the village, named Mestre Chico, whom he had known in Para previously. He was a free negro by birth, but had had the advantage of kind treatment in his younger days. . . . He neither drank, smoked, nor gambled, and was thoroughly disgusted at the depravity of all classes in this wretched little settlement, which he intended to quit as soon as possible. . . . His manners were courteous, and his talk well worth listening to for the shrewdness and good sense of his remarks. I first met Mestre Chico at the house of an old negress of Para, who used to take charge of my goods when I was absent on a voyage. The old woman was born a slave, but, like many others in the large towns of Brazil, she had been allowed to trade on her own account as market woman, paying a fixed sum daily to her owner, and keeping for herself all her surplus gains. In a few years, she had saved sufficient money to purchase her freedom, and that of her grown-up son. This done, the old lady continued to strive until she had earned enough to buy the house in which she lived, a considerable property, situated in one of the principal streets. When I returned from the interior, after seven years absence from Para, I found she was still advancing in prosperity, entirely through her own exertions, being a widow, and those of her son, who continued with the most regular industry his trade of blacksmith, and was now building a number of small houses on a piece of unoccupied land attached to her property. I found these and many other free negroes most trustworthy people, and admired the constancy of their friendships and the gentleness and cheerfulness of their manners towards each other."

That this extends to other parts of South America appears from the opinion of Humboldt, grounded on what he had observed, not only amongst mulattoes, but also amongst free blacks, that "the continent of Spanish America can produce sugar, cotton, and indigo by free hands, and the unhappy slaves are capable of becoming peasants, farmers, and landowners."

Here I shall quote other evidence, given before the same House of Commons commission, to which I have already alluded on Extinction of Slavery, 1832. We have there evidence as to the effects of emancipation and the working of free blacks in the Caraccas. Vice-admiral Fleming was examined. He had been in the Spanish naval service. He had twice been in the Caraccas, on one occasion for four months; had been far into the interior; was, on account of his rank in the

Spanish navy and long connection with Spaniards, as much at home, he says, as he could have been in any country in the world. He knew everybody of any condition. He took great interest in seeing a people newly emancipated, both from a European government (the revolutionary leader Bolivar had upset the Spanish Government and established a republic about 1821) and from slavery.

The free blacks continued to work in the sugar plantations, even in conjunction with slaves. They could have got land of their own and lived by tilling it, but only in the cold parts of the country. They prefer the warm parts, where land is not to be got. They are rapidly progressing towards civilisation. Schools are established; many of the blacks are learning trades; they desire knowledge; they maintain themselves perfectly well without assistance from their former masters or government. The country was progressing, though, at the time of his first visit, suffering from recent war. At his second visit there were large fields of wheat that had not been raised before and after that importation from America ceased.

Admiral Fleming knew several pure blacks in high position. One of them, General Peyanga, he speaks of as a well educated man, well read in Spanish literature, an extraordinary man. Many English officers served under him. There were many other black officers of considerable acquirements.

I come now to my last head, the degree of civilisation, commonly, I think, underrated, to which the negro has attained in Africa. First, Barth (*Travels and Discoveries in North and Central Africa*, London, 1857) everywhere speaks of the inhabitants of the interior of Africa as having attained to something at least resembling the oriental stage of civilisation. Perhaps the most forcible passage is the following (Barth 1, vol. iv. pp. 414 *et seq.*):—

“A native negro sovereign of Timbuctoo, named Mohammed Askia, not only extended his conquests far and wide, from the centre of Houssa almost to the borders of the Atlantic, and from the pagan countries of Mosi 12° northern latitude as far as Taŵat to the south of Morocco, but also governed the subjected tribes with justice and equity, causing well-being and comfort to spring up everywhere, and introducing such of the institutions of Mohammedan civilisation as he considered might be useful to his subjects. This king was held in the highest esteem and veneration by the most learned and rigid Mohammedans, whilst his immediate predecessor, a Berber sovereign, had rendered himself odious.

“In this kingdom of Timbuctoo there was a royal treasury and state prison. There were at least two large towns besides the capital, considerable cultivation of literature; one historian of the state, Achmet Bâbâ, had a library of 1,600 volumes; there was considerable commerce with Barbary, export of gold and salt, and in return import of almost all the luxuries of the Arabs. The king spent much of his revenue in introducing horses from Barbary to improve the native breed. Coats of mail are mentioned and brass helmets.”

This is the picture of a negro kingdom early in the sixteenth century.

Not far from here, Barth found (when he was there) a negro population industriously employed in agriculture and weaving. They would not receive in barter the cotton (tarrowel) he had brought with him to buy food, because it was not so good as their own manufacture. But if it be said that these are a higher type of negroes than those commonly slaves, yet Abeokuta belongs to the very centre of the old slave region. It is thus described by Burton. The Egbas of Abeokuta all of them work, either at agriculture or at some handicraft, and though they do not work well (Burton says, an Englishman would knock up a dozen Egbas), he adds, "How can it be otherwise in these malarious, fever-stricken, enervating, effeminising lands. Idleness is a condition imposed by a thermometer generally above 70°."

These people have ideas of division of labour and of trade. They have the five trades of blacksmith, carpenter, weaver, dyer, and potter. The blacksmith is also goldsmith, silversmith, copper-worker, and tinman. He can make rude keys, chains and staples, swords and knives, sickles and hoes. No American Indian or uncivilised Polynesian could do these things. They weave cotton cloth, and dye it with indigo; they have horses, cattle, sheep and goats.

The town is supposed now to have 150,000 inhabitants, and its original settlement (by refugees) does not date further back than 1825. It is rudely fortified. The government is republican. A body of negro refugees who can do this in six and thirty years are not savages, neither are they children who need to be under tutelage; they are civilised men.

After having surveyed the condition of the negro, both slave and free, both in the same country with Europeans and by himself, we may consider it, then, to be proved that he finds his only proper sphere is a position which, though possibly humble, is yet one of freedom.

Dr. CAPLIN said it appeared to him that the question which had been raised had not been met in the paper; for it was not a commercial question respecting the quantity of produce exported when the negroes were in a state of slavery, and when they were emancipated, but whether the negro is naturally susceptible of attaining a state of civilisation. As to their condition in a state of slavery, he believed they are more happy in that state than the white slaves in England and in France. Considering the brain of slaves, the question was, could it not be improved if they were placed in another condition? If the phrenological condition of the brain be considered, it must be admitted that they could be improved, for it was known that the capacity of the brain was increased and its form changed by education. He adduced as an example the change which was known to have been produced in the shape of a gentleman's head in Paris, several years ago. The gentleman had originally a peculiarly formed head, and he could wear his hat only in one direction. His intellectual faculties, however, having become developed by mechanical pursuits, his cranium was altered, and he was observed wearing his hat the wrong way. When he was informed that the buckle of his

hat was behind, he could not believe it possible that he could be wearing his hat the wrong way, because the shape of his head had been so peculiar; but he then ascertained that it had become altered, and was nearly as wide in front as it was at the back. If such a change could be effected by intellectual exercise in a white man, why should not the head of a negro become changed in the same manner? But under the circumstances in which they were placed, the negroes could not appreciate and enjoy freedom. Instead of being emancipated at once, or allowed to purchase their freedom, they should have been sent to school, and when able to act as civilised men, and taught to comprehend what liberty is, and to become useful members of society, freedom should have been granted to them as the prize for having acquired that knowledge. White men rise to the positions they attain by education and perseverance, and if they were placed in the same position as the negroes, without any opportunity of improvement, they would be as ignorant and stupid as they are. He thought that the negro, having a brain, he could be educated as well, and with the same results, as those who, by the exercise of their brain, are now in a superior position.

The PRESIDENT observed that he considered the question of the capacity of the negro for civilisation had been determined by the paper communicated to the Society at a previous meeting by Mr. Guppy. In that paper it was stated, on the evidence of practical experience, that the negro is incapable of appreciating and participating in European civilisation, and that when removed from restraints imposed on him he goes back into barbarism. The paper they had heard that evening shewed what facts could be collected to support the opposite opinion. But the authorities Mr. Pusey had quoted were principally old authors, and it is only in modern times that we can obtain satisfactory information on the subject. In former times people were blinded to the real state of the case, by considering it as a political question. That consideration no longer prejudiced the question, and we can now look at and consider the facts impartially. Mr. Pusey had collected statements which he (Mr. Pusey) considered satisfactory evidence of the capability of the negro for civilisation. With some of the facts stated he (the President) agreed, but with others he could not agree. Mr. Pusey had said that negroes can act as freemen in civilised society; that they work better when treated like freemen. Where they were treated as freemen they were comparatively useless, but when taken from Africa and sent to some place where they are partly free they become greatly improved. Mr. Pusey had to go to the West Indies, and to Brazil, and to the works of ancient authors to support his conclusions, that the negro in a free state is capable of civilisation. Modern information, with the exception of Mr. Wallace and Mr. Bates, differs materially from those accounts which had been quoted. Their evidence went to show that, in Brazil, there were free negroes who neither smoke, drink, nor gamble. Cases were also mentioned of industry among the slaves in the upper region of the river Amazons, who worked not only to buy their own freedom, but that they might purchase slaves of their own. Such descriptions

were very different from other accounts. Though he should not like to deny their correctness, so far as he could judge, the facts were generally otherwise. It was said further that the free negroes worked five days of the week, and only ceased from working on Saturdays and Sundays. Other authors stated that the free negro wishes to have every day of the week a Sunday. The fact was that, with the conflicting evidence on the subject, no satisfactory conclusion could be arrived at. Capt. Burton asserted that idleness prevails among people of all races where the temperature exceeds 70° of Fahrenheit. He (the President) did not concur in that opinion, for he considered that idleness was more a question of race than of climate. Dr. Caplin had said that the free negro could become a useful member of civilised society, but it must be borne in mind that he became so in connection with Europeans; and it was hopeless, in the absence of known facts, to speculate that he would become so without that association. That the negro is an inferior race at the present time is certain, and it remains to be proved whether he could, by any possible combination of favourable circumstances, work up to a high state of civilisation if left to himself. The only way by which such proof could be obtained would be to place a number of negroes on islands by themselves, excluded from all communication with other parts of the world, and to ascertain the advances they made towards civilisation in that position. But the Society have not got any islands whereon to carry out such an experiment. For his own part, he could not see the practical bearing of the paper. As to the question who were negroes, and whether all the natives of Africa ought to be so called, the question of the classification of mankind was at present in a very unsatisfactory state. He was glad that the paper had been brought forward, as he hoped it would shew those bigots who conceived that the negro had been unfairly treated by this Society, that our object was not to support slavery, or any pet doctrine, but that it was simply to arrive at the truth.

MR. BENDYSHE observed that it was extremely difficult to come to any conclusion about the negroes, in consequence of their varieties, and he should be glad if the word negro were expunged from the dictionary. The moment the black men got from Africa to America they became, in point of fact, a different race; and the same argument could not fairly be applied to them as to the black men in Africa. It was the same with other people. The English in America, for example, were different from the English in England; and it was probable that the negroes altered very much by change of circumstances. It was very possible that when they got to the West Indies they might be improved by intercourse with Europeans but at the same time it could not be said that it was impossible they could be civilised in Africa. In different parts of that large continent the negroes differed in character and in circumstances, and they should not all be considered as the same class. Even in London, the inhabitants of St. Giles's were very different from those at the West-end, and the former would not be taken as a representative of the latter. Similar differences might exist among the negroes. It was

well known that those on the coast were of the very worst kind, and if they died out under such circumstances it might be regarded as a proof of their capability for civilisation, for we should do the same. It was quite impossible, in our present state of knowledge, to arrive at any conclusion on the subject. If the term negro were applied only to those black men sent from the west coast of Africa to America, there might be some chance of solving the question; but those residing in other parts of Africa ought to have different names as they have different characters. They occupy an immense tract of country, and as they were capable of mixing among one another and with the whites, that was again a proof of their possessing the capability of improvement. In the West Indies he believed most of the negroes were of mixed blood.

Mr. BOUVIERE PUSEY observed that very few of the negroes in the West Indies were of mixed blood.

Mr. BENDYSHE could scarcely conceive how it was possible that it could be otherwise. In America the negroes were probably mixed with Indian blood, and it became questionable whether the influence of the Indian blood might not preponderate, in consequence of its being indigenous to the climate. A classification of the negroes was wanted before any conclusions could be drawn respecting them.

Mr. G. WITT said he had been informed by a gentleman who had had great opportunities of observation, that there was a curious characteristic of the negro by which he might be distinguished. On feeling at the nose, a negro might be known by the absence of a groove in the fleshy part of the end of the nose, which all other people possess but those who have negro blood and a certain race in India. His friend told him that this peculiarity is used as a test to discover negro blood when the colour of the skin has changed; and that at a ball at New Orleans a man was stationed at the top of the stairs, who grasped at the nose of all suspected persons, and if the groove was absent they were kicked down.

Mr. C. CARTER BLAKE said the fact mentioned by Mr. Witt was far from unlikely, and if at any future time the comparative myology of the negro should be adequately examined, the alleged distinction might prove as correct as many others which pass current in the present state of imperfect knowledge. As to the assumed difference between the negro of Africa and of America, he was at a loss to know in what it consisted. They have been placed in different circumstances, but there are no physical differences between them. It had been said that if the negro were educated, his skull would become altered and resemble that of an European. But, in opposition to that opinion, he adduced the fact that the skull of a Wesleyan deacon in Bermuda was among the lowest of the low negro types. The physical differences between the negro and European had on previous occasions been pointed out, and in the form of the teeth also there was supposed to be a difference, and there was strong anatomical evidence to confirm that distinction. In the second volume of Waitz's *Anthropologie der Naturvölker* there was some curious informa-

tion respecting the characteristics and geographical distribution of the true negro of the west and of the east coast of Africa.

Mr. DU VAL observed that there is a peculiarity in the physiognomy of the negro sufficient to distinguish him, in his projecting lips, his flat nose, and the placing of his head, independently of the colour of his skin. The length of his heel was also characteristic. So that at neither extremity of his body did the negro resemble ourselves; and he doubted very much whether he could be considered a "brother," or even a relative. It was well known that the negroes had never attained a position among civilised men. Every attempt to civilise them had failed, for they had always gone back to their original state.

Mr. REDDIE thought they should never come to a satisfactory conclusion respecting the capability of negroes for civilisation until they had some definition of what was meant by civilisation. No one would deny that the negro might be improved, and taught to do certain things, as some domesticated animals may be, but could that be called civilisation? The Southern States of America had been alluded to as having improved the negroes, and the degree of improvement they had attained had been appealed to by both parties as supporting their opposite opinions. It was a great pity that there should be so much party spirit as existed in America on this question. But in a society like this, they might get rid of the question whether freedom should be immediately granted to the negroes or not. He supposed no one there would object to the negro becoming free, so soon as he is fitted for freedom; at the same time he thought the true philanthropists were those who would keep the slaves in slavery so long as it was for their benefit, but, of course, under humane laws, and with proper regulations for their ultimate manumission. The questions of capability of civilisation and of fitness for freedom, though separate, had been mixed up in the paper, and had thus added to the difficulty of considering the subject. He thought, however, that some conclusions might be arrived at from the facts already known, without the necessity of having experimental islands, as had been suggested by the President. He expected that the author of the paper would have taken a bolder line; but as the question had been treated, he did not know whether Mr. Pusey wished to regard the negro as having always been in a savage condition, or whether he thought that, having once been in a higher position, he had since sunk down to a savage state. If he meant that the African in the central parts of Africa had ever attained a state of civilisation, then the negroes on the coast were unquestionably a degraded race, and it could not be expected that, if they remained under the same influences, they would be improved. The only chance of their improvement was to place them among a higher race. To suppose that without such influence they could rise from a lower state was absurd, because against our actual experience. Even with the influence of civilisation it was a very hard task to raise the negro to a state approaching the European. Before, however, they could determine the question of the negro's capacity for civilisation, they must first have a definition of what was meant by the term. The better kind of negroes in

America are, no doubt, superior to many Europeans in this country, for we have many degraded people among us; but individual instances could not settle the question. Those who assumed the natural equality of the negro race to us, were met with this difficulty: if the negro were capable of rising to a state of civilisation equal to the European; and if he could even achieve it without the influence of a higher race, how could they account for his now being, throughout the world, in a degraded condition? If the negroes possess the power to elevate themselves, why do they not rise? Why have they not already risen?

Mr. BOUVÉRIE PUSEY then replied severally to the objections which had been made to his paper. With respect to Dr. Caplin's objection, that he had treated the subject too commercially, he said he had only treated it as to shew that the conduct of the emancipated negroes was different according to the different modes in which they had been treated. He agreed that the condition of slavery tends to cramp the energy of the slaves, who, having no difficulties to encounter in procuring food and clothing, never acquired the habit of forethought and provision; and what they had done for themselves under those circumstances he considered very remarkable. The President had objected that the authorities quoted in the paper were very old, but to many of them that objection would not apply; for instance, he had quoted in support of his views Sewell, Underhill, Burton, Bates, and Wallace, all of whom were modern authors. But why should not old authorities be trustworthy? It had been said that they were partial and biassed by political prejudices, but all those he had quoted, with one exception, were against the abolitionists. The President thought that the evidence of Mr. Wallace and Mr. Bates was exceptional to that of other modern travellers; but his investigations led him to entertain a different opinion, the general evidence appearing to him to be favourable to the negro. Mr. Witt and Mr. Blake had adverted to physical differences between the negro and European. That, however, was a large subject, and not exactly now under discussion. Whatever might be the result of anatomical investigation, it would not affect his argument; for his own part, indeed, he, while as a transmutationist not attaching to the distinction the same importance as many a transmutationist, believed the negro to be a different species from the European. Mr. Bendyshe had laid stress on the difference between the negro in Africa and out of it, and that when out of Africa the negro was altered by mixed blood. If that were so, it would be in favour of his (Mr. Pusey's) argument; but he did not think much confusion could arise between the true negroes and those of mixed blood. He agreed that it was important to distinguish between the different tribes of negroes in Africa, though most persons believe that they all belong to the same stock. Mr. Reddie had drawn distinctions between the capacity for civilisation and such improvements as take place in the negro when in a state of slavery. It was true that a negro might be made a slave and taught certain things in the same manner as brutes are taught, but that was only domestication. In his opinion, nothing could be termed civilisation that does not imply

freedom, and the possession of sufficient qualities of intelligence and perseverance to fulfil the duties of civilised life. It had been asked by Mr. Reddie, why does not the negro, if capable of civilisation, civilise himself? He (Mr. Pusey) might ask, in reply, why have not the New Zealanders and other barbarous races raised themselves to a state of civilisation equal to the Europeans? It had been objected that many of the cases he adduced were only individual instances, and that they proved nothing, but for his part he considered that individual instances prove a great deal in connection with other things.

The PRESIDENT stated that another paper had been announced to be read, respecting human remains discovered in a kist in the Isle of Portland, but it had been ascertained that the flint flakes found with them were spurious, and the paper had consequently been withdrawn. The President then said it was his present duty to announce that the meetings of the society for the season had been brought to a close, and that the next meeting would be held on the 1st November. At the approaching meeting of the British Association at Bath, anthropology would be represented in Section E, and he trusted the Fellows of the Anthropological Society would meet there and support the claims of anthropology to be recognised as a distinct science in the proceedings of the association. During the six months that had elapsed since the anniversary meeting, two hundred new Fellows had been added to their list, and he hoped that under the influence of their assistant secretary, Mr. Blake, and that of the Council, when they met again, he should have to announce a considerable increase of members and the further success of the Society.

The meeting then adjourned to the 1st November next.

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